

perhaps unavoidable. I recommend it to senior graduate students and post-doctoral fellows and of course to persons who wish to extract the maximum amount of physiologically relevant information from the lovely simple systems of cell culture.

ROBERT POLLACK

*Department of Biological Sciences,
Columbia University,
New York, New York 10027*

Basin Analysis

Lithostratigraphic Analysis of Sedimentary Basins. C. E. B. CONYBEARE. Academic Press, New York, 1979. xii, 556 pp., illus. \$39.50.

Basin analysis constitutes a major focus of the activity of many geologists, geophysicists, and engineers, especially those engaged in exploration for various types of natural resources. Conybeare has provided a general synthesis of lithostratigraphic concepts and methodologies commonly employed in basin analysis. Many previous works have approached this topic from the more specialized standpoints of stratigraphy, sedimentation, geophysics, or tectonics. Few have attempted the broad integration that is presented in this book.

The author's purpose was to provide a general review of sedimentary basin analysis and a commentary on basin classification, evolution, and development. Secondly, it was to provide a general reference work on current approaches to integrated lithostratigraphic analysis. By and large, Conybeare has succeeded in this endeavor.

With increasing expansion and sophistication of all geologic subdisciplines, basin analysis by a single geologist has been largely replaced by analysis by teams of specialists who jointly are capable of vastly more detailed and accurate interpretations than have ever been possible before. Conybeare's approach is based on this development. Naturally, well-established lithostratigraphic practices, procedures, concepts, and principles are updated and reviewed. More interesting to those actively concerned with basin analysis is Conybeare's synthesis of basin classifications, development, and evolution as well as his applications of basin analysis to economic geology. Discussions of these topics constitute more than a third of the book. They are timely, stimulating, original in part, and the best summaries of these topics available.

Two disappointing aspects of an otherwise excellent coverage and presentation of lithostratigraphic methods in basin studies can be noted. There is only a rather superficial acknowledgement of seismic stratigraphy, which during the past decade has revolutionized basin analysis in areas where subsurface exploration is limited. That means nearly all the earth's continental shelves, which contain those basins that are being analyzed most actively today and will continue to be investigated over the next few decades. The contribution of seismic stratigraphy to basin analysis continues to grow each year, and its value is unsurpassed in areas of limited drilling; however, its significance remains largely unappreciated by those who have not been involved in recent offshore petroleum exploration. There is also a tendency to include in the text much explanation of figures and diagrams that could have been more appropriately included in their captions. For the most part, the detailed information is necessary and desirable, but its placement in the text often serves only to obscure the more important general points the author is attempting to make with the illustrations.

Although Conybeare has evidently been most often oriented toward basin analysis for petroliferous resources, he has carefully tried to demonstrate application of basin analysis for all types of purposes, including discovery of coal, metallic ores, nonmetallic minerals, and groundwater resources as well as environmental (waste disposal), general earth history, and pure academic studies. Any scientist involved with basins in any way will find the book informative and readable.

C. JOHN MANN

*Department of Geology,
University of Illinois,
Urbana 61801*

Books Received

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(Continued on page 428)

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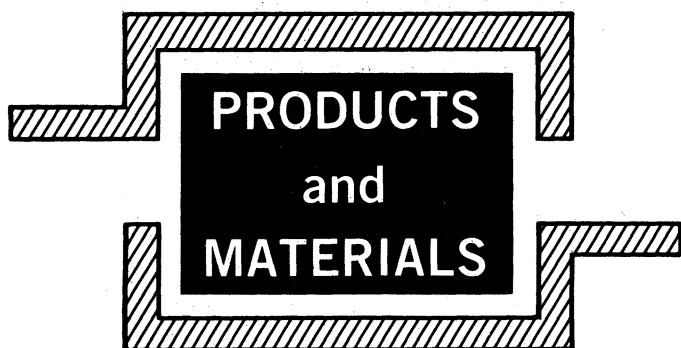
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(Continued from page 394)

International Astronomical Union Colloquium 47.

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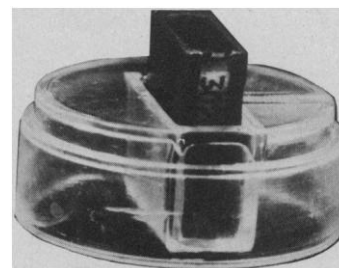
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Biologist. B.S. 1975. M.S. 1978. Pharmaceutical laboratory experience. Seeks career and advancement opportunity in research and development/quality control laboratory. R. Hager, 227 Pickwick Road, Havertown, Pa. 19083. Telephone: 215-446-1914. X

Cell Biologist/Electron Microscopist/Radiation Biologist. Ph.D. Seeks academic/research position. Experience in quantitative morphometry, EM autoradiography, enzyme histochemistry, radiation ecology, and radiotracers. Some SEM and tissue culture work. Fortran and Basic. Special interests: intercellular communication in normal and neoplastic cells and mechanisms of mitosis. Postdoctoral and research experience; publications. Available September 1980. Box 104, SCIENCE. X

Chemistry/Pharmacology. Ph.D. Experience in chemistry (6 years), medical school faculty (8 years); expertise in organic synthesis, atherosclerosis, GI physiology, and cell culture. More than 27 publications; \$350,000 in grants. Seeks management-R & D position in industry. Box 106, SCIENCE. X

Pharmacologist. M.D., Ph.D., seeks research/administrative position in pharmacological laboratory/pharmaceutical firm; 30 years of research and administration in experimental and clinical pharmacology of new neurotropic, cardiovascular, hormonal preparations, bio- and radioimmunoassays; 200 publications. Emigrated from Russia 10 months ago; now working in Neuroendocrinology Laboratories, Salk Institute, California. Willing to relocate. Dr. A. Briskin, Salk Institute, P.O. Box 85800, San Diego, California 92138. X

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Cytogeneticist. Ph.D., 5 years of research experience in mammalian cytogenetics (mice, rabbits, cattle, pigs, rats), tissue culture, lymphocytes, assessing the mutagenic action of chemicals, embryo culture in rotating bottles, SCE's; several publications. Desires research position anywhere, including overseas. Box 105, SCIENCE. X

Electron Microscopist/Cytologist. Ph.D. in biological field with broad background in various disciplines. Extensive experience in TEM, SEM, and x-ray: research and teaching. Numerous publications. Director of central EM facility. Seeking new, challenging position involving EM in industry, research institute, university, or medical school. Box 108, SCIENCE. X

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Mass Spectroscopist. Ph.D., seeks analytical/research position. Background in carbohydrate, peptide, protein chemistry; experience with electron impact, positive/negative chemical ionization mass spectrometry, gas chromatography, high-performance liquid chromatography. J. M. Ballard, Chemistry Department, University of Virginia, Charlottesville, Va. 22901. X

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Ph.D. 1968, veterinary medicine, reproductive physiology, radioimmunoassay, radioreceptor-assay, toxicology, teratology. No geographic preference. Telephone: 513-872-4362, or 1289 Tallberry Drive, Cincinnati, Ohio 45230. X

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Applications are being solicited for an elastin-collagen biochemist with postdoctoral research experience in both areas to join a connective tissue research group. Immunologic and molecular genetics experience also necessary. Send letters of application and curriculum vitae to: Dr. Stephen Woodward, Department of Pathology, University of Utah Medical Center, Salt Lake City, Utah 84132. Deadline for applications: 26 May 1980.

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ADMINISTRATIVE DEPUTY OF COLLABORATIVE GROUP STUDY IN BLADDER CANCER: Experience in Cooperative Group studies, grant preparation, grants management, study logic and planning essential. Monitoring many of group's activities a major portion of function. M.B.A. or allied field preferred. Send curriculum vitae to: George R. Prout, Jr., M.D., Chief, Urological Service, Massachusetts General Hospital, Boston, Mass. 02114. We are an Affirmative Action/Equal Opportunity Employer.

AGRONOMY SPECIALIST—WINTER CEREALS. University of California Davis. Statewide extension specialist to lead and coordinate educational program in winter cereals. Conduct cooperative program to evaluate varieties, experimental lines. Design and interpret results of field investigations. Provide in-service training. Assure affirmative action in development and delivery of program. Ph.D. in field related to crop production or extensive experience preferred. Closes 15 May 1980. Contact: Personnel Administrator, Cooperative Extension, 331 University Hall, University of California, Berkeley, Calif. 94720. Refer to number 8010.

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ANATOMY. A person with postdoctoral experience and proven research productivity is sought to complement the research program of the department and to teach in graduate, medical, and/or paramedical courses. Rank and salary are commensurate with experience. Send curriculum vitae and bibliography to: Dale E. Bockman, Chairman, Department of Anatomy, Medical College of Georgia, Augusta, Georgia 30912. An Affirmative Action/Equal Opportunity Employer.

AQUATIC BIOLOGIST

Temporary 1-year appointment for the 1980-1981 academic year with possibility of continuance in 1981-1982. Qualifications include: earned Ph.D., field orientation, strong quantitative background (including familiarity with multivariate statistics) and ability to teach introductory biology and ichthyology. The position is at the assistant professor rank; salary range is \$17,280 to \$20,160 depending on qualifications and experience. Applicants should submit curriculum vitae, copies of representative publications, and arrange to have three letters of reference sent to: Dr. Frank W. Judd, Chairman, Search Committee, Department of Biology, Pan American University, Edinburg, Texas 78539 by 16 May 1980.

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ASSISTANT PROFESSOR

University of California, Irvine, Department of Pathology, is recruiting for a faculty position at the assistant professor level. Required: M.D., must be Board-certified in anatomic pathology and eligible for licensure in California. Subspecialty experience highly desirable. Demonstrated interests in clinical service functions, teaching, and research. Duties: assist the division chief in such administrative activities as the functioning of the histology laboratory, maintenance of clerical support and the Residency Teaching Program; instructing medical students and residents in pathology; and presenting conferences for the clinical staff and the community. *Affirmative Action Employer.* Send curriculum vitae and references to: Stephen G. Romansky, M.D., Department of Pathology, University of California, Irvine, 101 City Drive South, Orange, California 92668, by 26 May 1980.

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Applications are invited for a faculty position at the level of **ASSISTANT PROFESSOR** in the **DEPARTMENT OF ANATOMY** at Wright State University. Applicants should hold the Ph.D. or M.D. degree and preference will be given to those with postdoctoral training. Candidates should be strongly committed to research and special consideration will be given to those with experience in neuroimmunology and/or neurochemistry. Primary teaching responsibilities include participation in neuroanatomy courses for medical and graduate students. The successful applicant will be appointed to the faculty of the School of Medicine and the College of Science and Engineering. The position will be available on 1 September 1980.

Send curriculum vitae and three letters of recommendation to:

Dr. Joseph Zambarnard
Chairman, Department of Anatomy
Wright State University
Dayton, Ohio 45435

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VISITING ASSISTANT PROFESSOR OF BIOCHEMISTRY

VISITING ASSISTANT PROFESSOR OF BIOCHEMISTRY—Nontenure-track position available with approximate starting date of 1 September 1980. Recent Ph.D. in biochemistry. The position will involve teaching of medical and graduate students and participation in research in ongoing projects. Initial 12-month appointment with opportunity for renewal. Minimum salary will be \$15,000 per year. Send detailed curriculum vitae, statement of research interests, and three letters of recommendation to: Joseph G. Cory, Department of Biochemistry, University of South Florida College of Medicine, Tampa, Florida 33612. *University of South Florida is an Equal Opportunity Employer in full compliance with the promise of the Fair Employment Act.*

ASSISTANT PROFESSOR—Insect Taxonomist. Tenure-track research-teaching position available immediately. Research on taxonomy and biology of insects of economic importance in developing countries. Teaching proficiency in insect classification, taxonomic principles, museum techniques. Knowledge of tropical ecology and fluency in Spanish and/or French preferred. Ph.D. in entomology required. Opportunity for foreign travel. Send résumé, transcripts, and letters of reference to: H. T. Streu, Department of Entomology and Economic Zoology, Cook College, P.O. Box 231, Rutgers—The State University, New Brunswick, N.J. 08903.

BEHAVIORAL BIOLOGIST

The Department of Biological Sciences invites applications for a tenure-track position expected to be available in September 1980 or January 1981 at the rank of assistant professor. Preference will be given to candidates with postdoctoral experience who have demonstrated outstanding potential for experimental research in behavioral mechanisms. The applicant selected will be expected to teach undergraduate and graduate courses in his/her general field and to direct M.S. and Ph.D. candidates.

Applications, including curriculum vitae, reprints, a statement of research plans, and three letters of reference, should be sent to: Dr. S. K. Shapiro, Head, Department of Biological Sciences, University of Illinois, Box 4348, Chicago, Illinois 60680. Closing date: 19 May 1980. *The University of Illinois is an Equal Opportunity/Affirmative Action Employer.*

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UNIVERSITY OF CALIFORNIA, BERKELEY ASSISTANT PROFESSOR OF EXPERIMENTAL NUTRITION

The Department of Nutritional Sciences at the University of California seeks to appoint an assistant professor of experimental nutrition. Position available 1 July 1980. Research emphases are not restricted but should be related to biochemical and/or physiological aspects of experimental nutrition. Teaching responsibilities include at least two courses per year (including a laboratory). Level of appointment will depend on qualifications. Applications should be submitted to: Chairman, Experimental Nutrition Search Committee, Department of Nutritional Sciences, 119 Morgan Hall, University of California, Berkeley, Calif. 94720. Applications should be accompanied by complete curriculum vitae and publication list, a statement of research interests and areas the applicant hopes to develop, two copies of publications relevant to current research interests, and a brief description of teaching experience. Applicants should submit the names of five referees able to evaluate the academic, teaching, and research potential of the applicant. Deadline for completed applications: 9 May 1980.

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ASSISTANT PROFESSOR ORTHOPAEDIC BIOMECHANICS

The Department of Orthopaedic Surgery of the University of Pennsylvania is seeking applicants for a tenure-track position in orthopaedic biomechanics. Candidates should have a recent Ph.D. in biomechanics and a strong interest in mechanics of the human musculo-skeletal system. Duties of the position include participation in the teaching program of the department, individual and collaborative research in the McKay Laboratory of Orthopaedic Surgery Research, and individual direction of orthopaedic residents, medical, and engineering students involved in various research efforts. A joint appointment in the Department of Bioengineering, with opportunities for graduate and undergraduate teaching, collaborative research, and direction of Ph.D. candidates is anticipated. Applicants should submit curriculum vitae and arrange to have three letters of recommendation sent directly to:

Jonathan Black, Ph.D.
Chairman, Biomechanics Search Committee
Department of Orthopaedic Surgery
424 Medical Education Building/GM
36th Street and Hamilton Walk
University of Pennsylvania
Philadelphia, Pennsylvania 19104

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We invite applications for a non-tenure-track position at the level of assistant professor/research associate beginning September 1980. The appointment is for up to 4 years. The primary responsibility is developing a research program in collaboration with a group working on the structure, function, and synthesis of plasma membrane proteins. Teaching duties are equivalent to one semester course per year beginning the second year. Individuals who have received their Ph.D. by September 1980 and have demonstrated originality and creativity in research are encouraged to apply. Salary is competitive. Submit résumé, publication list, and names of three references by 15 May 1980 to: Dr. Bruce S. Jacobson, Search Committee, Department of Biochemistry, University of Massachusetts, Amherst, Mass. 01003. *An Affirmative Action/Equal Opportunity Employer.*

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The Department of Surgery at Southwestern Medical School is seeking an **ASSISTANT PROFESSOR OF SURGERY**. Applicants must possess M.D. degree; Board-eligibility; experience in basic immunologic experimentation, tissue culture, clinical application of chemotherapy. Submit curriculum vitae to: William J. Fry, M.D., Hudson-Penn Professor and Chairman, Department of Surgery, University of Texas Health Science Center at Dallas, 5323 Harry Hines Boulevard, Dallas, Texas 75235. *The University of Texas Health Science Center at Dallas is an Equal Opportunity Employer.*

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The **DEPARTMENT OF BIOCHEMISTRY** of the University of Louisville School of Medicine invites applications from qualified individuals with a commitment to excellence in research and teaching in the area of eukaryote molecular biology and the mechanisms of drug and hormone action. The individual is expected to develop a vigorous research program in collaboration with an established investigator in medical oncology. The full-time (12-month) position will be available 1 July 1980, at the assistant professor level with a primary appointment in the Department of Biochemistry and a secondary appointment in the Department of Medicine. Candidates for this tenure-track position must have a doctoral degree in biochemistry or in a related field. Postdoctoral experience is required. Please send curriculum vitae, list of publications, summary of research interests, and the names of at least three references who may be contacted for letters of recommendation to: Dr. Calvin A. Lang, Chairman, Search Committee, Department of Biochemistry, University of Louisville School of Medicine, Louisville, Kentucky 40292. Applications will be accepted until 15 June 1980. *The University of Louisville is an Equal Opportunity/Affirmative Action Employer.*

BIOCHEMIST—Assistant professor. Duties include participation in lecture courses and laboratory instruction for medical students. Applicants expected to initiate independent research. Salary: \$21,600. Starting August 1980. Candidates on sabbatical leave may also apply. Send curriculum vitae and three letters of reference to: Chairman, Biochemistry Department, Ponce Medical School, P.O. Box 7004, Ponce, P.R. 00731. Formerly Catholic University of Puerto Rico School of Medicine. *Equal Opportunity Employer.*

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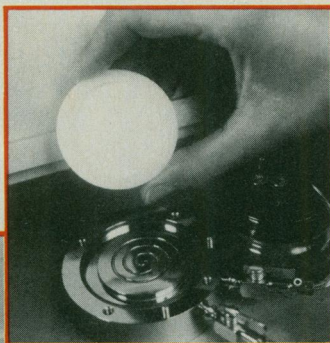
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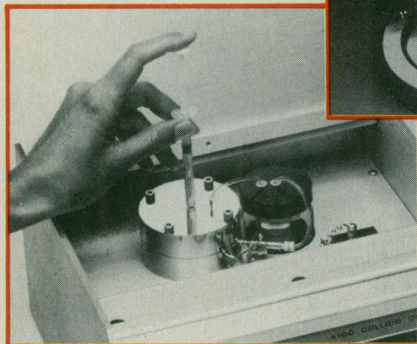
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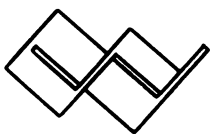
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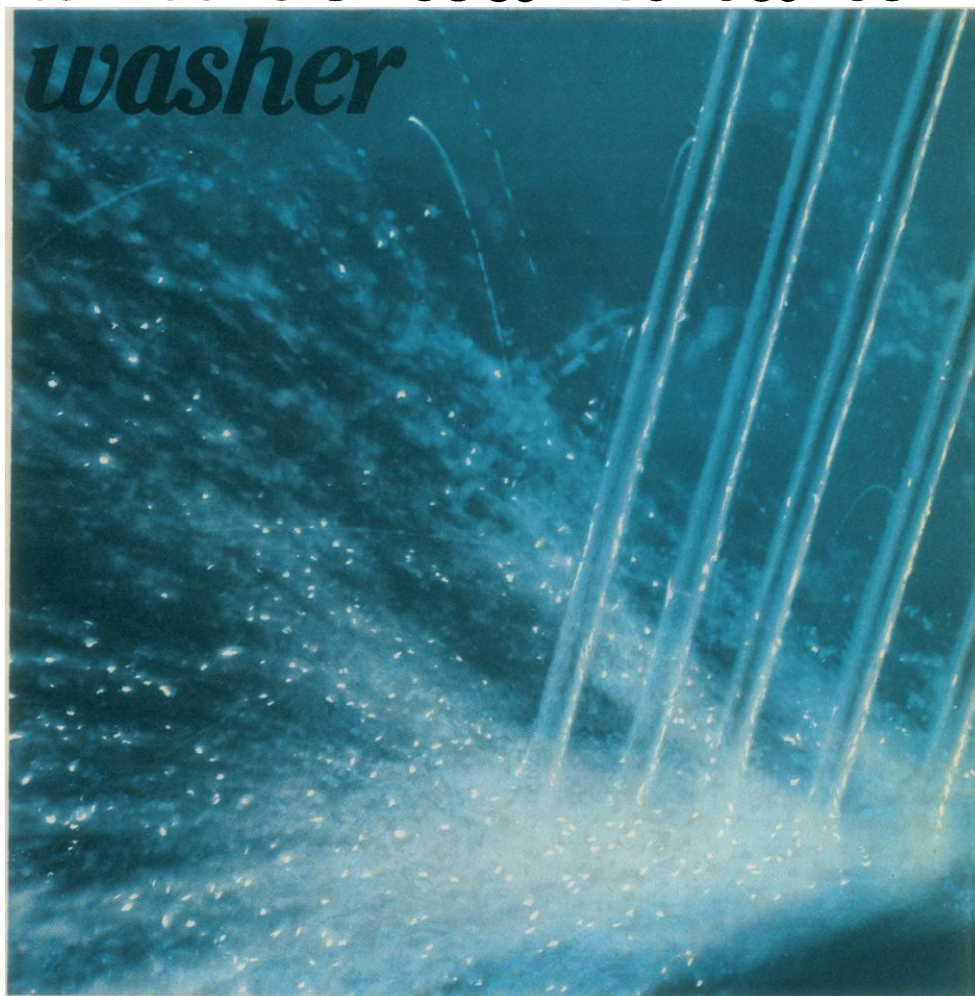


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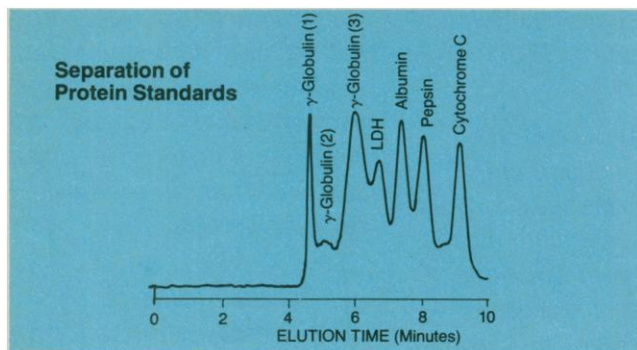
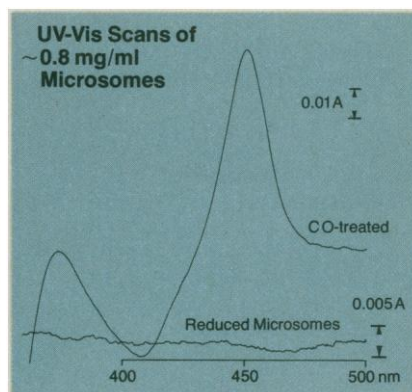
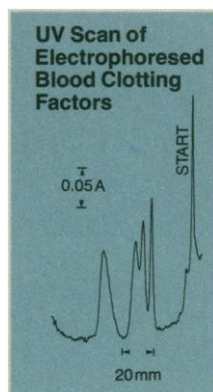
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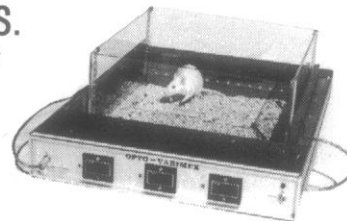
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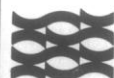
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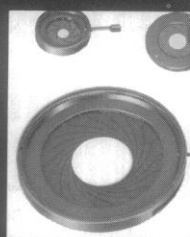
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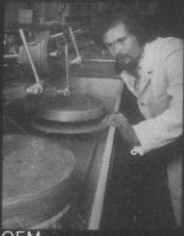
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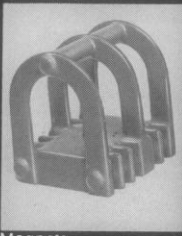
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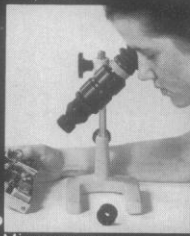
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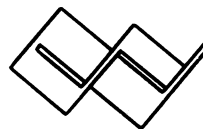
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Duties for the position would be to assure quality and coordinate the administration of the multiple research animal care units of the university and to provide leadership in establishing research and graduate training programs in laboratory animal medicine within the School of Veterinary Medicine.

Applicants should: have the D.V.M. (or equivalent) and Ph.D. degrees and be a diplomate of the American College of Laboratory Animal Medicine; have experience in the management of a complex establishment where animal research is of high priority; have a record of scholarly achievement; and have other appropriate professional experience sufficient to qualify the candidate for the tenure-track.

Applications and nominations with supporting material will be accepted through 1 June or until the position is filled. Correspondence should be directed to: **Dr. James A. Will, Department of Veterinary Science, University of Wisconsin, 1655 Linden Drive, Madison, Wis. 53706.** Telephone: 608-262-3177.

The University of Wisconsin-Madison is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and members of minority groups.

ECOLOGY AND EVOLUTION FACULTY. The Department of Ecology and Evolution, State University of New York (SUNY) at Stony Brook, announces two positions to be filled as of 1 September 1980. **FIRST**, a 1-year temporary position: instructor or assistant professor level, with primary teaching responsibilities in introductory biology and elementary population biology. Research interests should lie within the area of population biology. **SECOND**, a tenure-track position, to be filled at the level of assistant professor. Applicants should have demonstrated research potential within the area of terrestrial ecology. Teaching duties will be undergraduate and graduate instruction in ecology and the applicant's specialty. Please state clearly position for which you are applying. For both positions, please forward curriculum vitae, copies of publications, and three letters of recommendation to: **Dr. Douglas J. Futuyma, Search Committee, Department of Ecology and Evolution, SUNY at Stony Brook, Long Island, N.Y. 11794.** *An Equal Opportunity/Affirmative Action Employer.*

ENTOMOLOGIST

The Biology Department of Boston University invites applications for a tenure-track position in entomology at the assistant professor level commencing September 1980. Postdoctoral experience is required and a strong interest in ecological and/or evolutionary interactions between taxa. A vigorous research program is expected. Teaching involves participation in introductory, upper level, and graduate courses. Please submit curriculum vitae, including a statement of teaching and research interests, and three letters of recommendation no later than 15 May to: **Ecology Search Committee, Biology Department, Boston University, Boston, Mass. 02215.** *Boston University is an Equal Opportunity/Affirmative Action Employer.*

ENVIRONMENTAL/OCCUPATIONAL MEDICINE—Two positions open in an expanding department with a commitment to develop programs in environmental and occupational medicine. (i) **ASSOCIATE/ASSISTANT PROFESSOR:** M.D. to direct program in occupational medicine. At least 5 years of experience in this area with a strong interest in fostering an academic approach to understanding the mechanisms for the occurrence of work-related disease, and a desire to teach health professionals. Leadership capabilities and effective communication are necessary. Board-certification in occupational medicine and background in epidemiology desirable. (ii) **ASSISTANT PROFESSOR/INSTRUCTOR:** M.D. or Ph.D. with interest and capabilities in elucidating mechanisms underlying environmental/occupational disease process by epidemiological or bench science approaches. Ability to communicate effectively with members of other academic disciplines and with occupational physicians and industrial toxicologists is essential. Send résumé detailing experience and qualifications to: **Bernard D. Goldstein, M.D., Chairman, Department of Environmental and Community Medicine, COLLEGE OF MEDICINE AND DENTISTRY OF NEW JERSEY—Rutgers Medical School, P.O. Box 101, Piscataway, N.J. 08854.** *Equal Opportunity/Affirmative Action Employer, M/F.*

POSITIONS OPEN

ENDOCRINOLOGIST. Department of Physiology seeks molecular endocrinologist interested in teaching and joining a program investigating the mechanism of steroid induced gene expression in mammals. Appointment at assistant professor level limited to 5 years. Postdoctoral experience required. Position available 1 July 1980. Send curriculum vitae and two references to: **Dr. N. Briggs, Chairman, Department of Physiology, Medical College of Virginia, Box 551, Richmond, Va. 23298.**

ENVIRONMENTAL HEALTH FACULTY POSITION

Nontenure-track, renewable position, assistant or associate professor, available fall quarter 1980; to develop and teach undergraduate courses in health impact assessment including, possibly, epidemiology, health effects of environmental pollutants, policy and administration, and related courses in environmental studies. Ph.D. in environmental health, chemistry, biology, or closely related discipline, or M.P.H. with outstanding qualifications. Teaching experience and strong research interests preferred. Send résumé, description of teaching and research interests, and names of three references by 23 May to: **Search Committee, Huxley College of Environmental Studies, Western Washington University, Bellingham, Wash. 98225. Equal Opportunity/Affirmative Action Employer.**

ENVIRONMENTAL SCIENTISTS

Multidisciplinary environmental consulting firm is seeking individuals at the staff scientist level with strong quantitative backgrounds in the following areas:

**Biology/Ecology
Oceanography/Coastal Engineering
Environmental Engineering**

Applicants must have minimum of M.S. degree and demonstrated written and oral communication skills. We offer challenging positions at a desirable northwest location. Please send letter of introduction, curriculum vitae, and salary requirements to:

**Dr. Marc W. Lorenzen
Tetra Tech, Inc.
1900 116th Avenue, NE
Suite 200
Bellevue, Washington 98004**

An Equal Opportunity/Affirmative Action Employer

EXECUTIVE DIRECTOR

Hawk Mountain Sanctuary Association is seeking a creative, experienced executive to expand the organization's involvement in national conservation issues. Send curriculum vitae and statement of experience to: **Dr. Frank B. Gill, The Academy of Natural Sciences, 19th and Parkway, Philadelphia, Pa. 19103.**

The Institute of Marine Science, University of Alaska, is seeking to fill the position of **EXECUTIVE OFFICER**. Principal administrative officer for oceanographic research/educational organization of approximately 150 faculty, staff, and students; assists director in all administrative and financial matters. B.S. degree and/or experience in science administration. Send résumé to: **Dr. V. Alexander, Director, Institute of Marine Science, University of Alaska, Fairbanks, Alaska 99701, telephone: 907-479-7531. Closing date of position is 9 May 1980. The University of Alaska is an Affirmative Action/Equal Opportunity Employer and Educational Institution.**

FACULTY POSITIONS—Two appointments in physical chemistry, beginning August 1980, in an undergraduate liberal arts college having a strong commitment to teaching and research.

1) To replace a faculty member on leave; strong preference will be given to candidates with a background in teaching general chemistry and instrumentation. One-year position with possible extension.

2) Regular appointment, nontenure-track; the successful candidate will have teaching responsibilities taken from the fields of general, physical, and radiochemistry, and will also be responsible for the management of the Reed Reactor Facility (TRIGA Mark I reactor).

Applicants should send curriculum vitae and three letters of recommendation before 16 May to: **Dr. John Hancock, Chemistry Department, Reed College, 3203 SE Woodstock, Portland, Oregon 97202. Reed College is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

EXTENSION ENTOMOLOGISTS (two assistant professors or one assistant and one associate professor). For details, telephone: **515-294-7400**, or write: **Department of Entomology, Iowa State University, Ames, Iowa 50011. An Affirmative Action/Equal Opportunity Employer.** Application deadline: 15 May 1980.

BIRZEIT UNIVERSITY, FACULTY OPENINGS, 1980-1981. An independent Arab university in the Israeli-occupied West Bank of Jordan has the following faculty openings for the academic year 1980-1981: **Experimental physics, general science** (requires diversified background, earth sciences, chemistry, physics). **Biochemistry, botany, chemistry.** English is the basic language of instruction and candidate should have a Ph.D. or a master's degree with experience. Starting annual salary for Ph.D. is 3446.4 Jordanian dinars (current exchange rate: 1 J.D. = \$3.35). Optional summer teaching extra. Fringe benefits include relocation allowance. Transportation provided. All applications should include résumé and be addressed to: **Dean, Faculty of Science, Birzeit University, West Bank, Via Israel.**

FACULTY POSITION. Experience in animal virology, cell biology, immunology, or genetics. Required to teach courses to medical and graduate students and to maintain a vigorous research program. Research productivity must be demonstrated. Individual expected to develop graduate courses in a specialized field of interest. Rank and salary dependent on background, experience, and qualifications. Send curriculum vitae, bibliography, and three recommendations by 1 June 1980 to: **Dr. Fred Rapp, Chairman, Department of Microbiology, The Milton S. Hershey Medical Center, The Pennsylvania State University, Hershey, Pa. 17033. An Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITIONS IN PHARMACOLOGY UNIVERSITY OF CALIFORNIA, IRVINE COLLEGE OF MEDICINE

The newly redeveloping Department of Pharmacology of the University of California, Irvine, College of Medicine, invites applications and nominations for five tenure-track or tenured faculty positions. Candidates should be internationally recognized scholars and investigators with demonstrated commitment to medical and graduate education, and should be currently active in one or more of the following fields: biochemical pharmacology, neuropharmacology and neuroendocrinology, immunopharmacology, renal and cardiovascular pharmacology, clinical pharmacology. A Ph.D. in pharmacology or biochemistry or M.D. is required. Level of appointment and salary will be commensurate with achievement and experience.

Curriculum vitae and names of three references should be sent before 15 June 1980 to: **Dr. Larry Stein, Chair, Department of Pharmacology, University of California, Irvine, California 92717. The University of California is an Equal Opportunity Employer.**

The Department of Microbiology and Molecular Genetics at Harvard Medical School invites applications for a new position of assistant professor in the general field of the **GENETICS, PHYSIOLOGY, or MOLECULAR BIOLOGY of PROKARYOTES**. The applicant should have a Ph.D. or M.D. degree, and strong research background and promise; talent and serious commitment to teaching of medical and graduate students would also be an asset. Please send curriculum vitae with copies of publications, a discussion of your work and interests, and the names and addresses of three referees to: **Chairman, Department of Microbiology and Molecular Genetics, Harvard Medical School, 25 Shattuck Street, Boston, Mass. 02115 before 15 June 1980.**

HUMAN CYTOGENETICS

Cytogeneticist to direct clinical and research program. M.D. or Ph.D. with appropriate experience, ability to initiate research, and interest in teaching. Excellent opportunity with extensive clinical material and research relationships. Please send curriculum vitae, background experience, research interests and names of three references to: **R. M. Bannerman, M.D., Director, Division of Human Genetics, Department of Pediatrics, State University of New York at Buffalo, Children's Hospital of Buffalo, 219 Bryant Street, Buffalo, N.Y. 14222.**

An Equal Opportunity/Affirmative Action Employer

Use your imagination...

Applied Statistician

San Francisco Bay Area

The Lawrence Livermore Laboratory is seeking a statistician to work on various problems in nuclear research. Our ideal candidate will have a PhD in statistics or equivalent, and a strong interest in the applications and development of statistical methodology for engineering and physical science problems. A background in at least one of the following areas is desirable: multivariate methods, time series analysis, non-parametric techniques, or the development of statistical software. Demonstrated communication skills both written and oral and experience in the nuclear safeguards industry are highly desirable.

The Laboratory is an applied science R&D facility operated by the University of California under contract with the U.S. Department of Energy, and located in a rural suburb of the San Francisco Bay Area.

Interested and qualified candidates should submit resumes including salary requirements to: **Sue Porter, Employment Division, LAWRENCE LIVERMORE LABORATORY, P.O. Box 808, Dept. KSC-040, Livermore, CA 94550. U.S. Citizenship Required. An Equal Opportunity Employer M/F.**



**LAWRENCE
LIVERMORE
LABORATORY**

an equal opportunity employer m/f

POSITIONS OPEN

FACULTY POSITION—NATURAL SCIENCES, 1 September opening, assistant or associate professor, to coordinate and develop undergraduate Medical Technology Program. Ph.D., research, and teaching background in one of the following: immunology/serology, microbiology, hematology, biochemistry/clinical chemistry, virology, histology and epidemiology. Consideration given to M.S. or M.T. with certification in clinical specialty and with research and teaching experience. Must establish independent research program. Teaching in one or more of the following: clinical pathology, clinical chemistry, medical microbiology, or specialty. Salary and rank commensurate with experience. *Equal Opportunity/Affirmative Action Employer*. Résumé and three references by 30 June 1980 to: **Dr. Leslie A. Lewis, Chairman, Department of Natural Sciences, York College, City University of New York, Jamaica, N.Y. 11451.**

DEPARTMENT OF ENVIRONMENTAL HEALTH

University of Washington

FACULTY POSITION AVAILABLE

Faculty Position in Occupational Medicine

Full-time, to assist in the development of a program in occupational and environmental medicine, conduct research and develop and participate in teaching programs in these areas for medical students, occupational medicine residents, and practicing physicians. Field studies and occupational medicine clinic service are major program components.

Graduate training in occupational or environmental medicine (M.P.H.) required. Experience in clinical occupational medicine and Board-certification in occupational medicine or eligibility thereof preferred. Position available immediately. *Women and minorities are encouraged to reply*. Send résumé and references to: **Chairman, Department of Environmental Health SC-34, University of Washington, Seattle, Washington 98195.**

GENETICIST/CYTOGENETICIST postdoctoral position available September 1980. Research group studying the human X-linked lymphoproliferative syndrome. Candidate should have cytogenetic skill and broad genetic background to explore complex EBV-related disease and inherited cancer. Salary meets NIH guidelines. Send résumé and references by 1 June to: **David T. Purtilo, M.D., Pathology, University of Massachusetts Medical Center, 55 Lake Avenue North, Worcester, Mass. 01605. An Affirmative Action/Equal Opportunity Employer.**

Wanted: HUMAN TUMOR CYTOGENETICIST RESEARCHER; 40-hour week; \$20,330 per year. Duties: fragments of human gastrointestinal cancers are obtained as soon as possible after removal. The material is then prepared in a special way to provide yield of chromosomes. These chromosomes are then stained in a number of ways to allow for counting and analysis of the various patterns of chromosomal abnormalities. The material is photographed at various stages to allow for repeated study. Correlations are then made with the characteristics of tumor, such as invasiveness, degree of differentiation, biological behavior in the patient. Minimum requirements: 6 to 8 years of college with a Ph.D. in physiology, biochemistry, or anatomy (above doctoral work must be in cytogenetics). No experience necessary with above educational experience. M.D. or other Ph.D. specialization acceptable if you have 2 years of work experience (or postdoctoral training) in cytogenetics. Apply to: **Dr. Bernard Levin, Section of Gastroenterology, Department of Medicine, The University of Chicago, Box 400, 950 East 59 Street, Chicago, Illinois 60637. Telephone: 312-947-5568. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL FELLOW

Mechanisms of thermostability, protein folding-unfolding, biophysical/biochemical techniques applied to glutamine synthetases from extreme thermophile. Available 1 October 1980 for 1 year with renewal by mutual agreement. Closing date: 30 June 1980 or until a satisfactory candidate is selected. Send curriculum vitae, thesis synopsis, and names of three references to: **Dr. F. C. Wedler, Biochemistry Program—Department of Microbiology, Cell Biology, Biochemistry and Biophysics, 203 Althouse Laboratory, The Pennsylvania State University, University Park, Pa. 16802.**

An Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

MEMORIAL UNIVERSITY OF NEWFOUNDLAND HEAD OF DEPARTMENT OF GEOLOGY

Applications are invited for the position of **HEAD OF DEPARTMENT OF GEOLOGY**, Memorial University of Newfoundland. Candidates should have a strong background in research and administration and have interests in teaching. The appointment will be at senior academic rank. No specific field of research is required but candidates must have the ability to understand and encourage a wide range of geological research, much of it involving close co-operation with other university departments, government, and industry.

The department has 19 faculty members and a full technical and secretarial staff. The physical plant contains a full range of teaching and research laboratories and equipment (automated microprobe, SEM, X.R.F., X.R.D., A.A., solid source mass spectrometer, and so forth). Departmental research is currently directed toward aspects of Appalachian geology and the Precambrian of Labrador. Future expansion is anticipated in offshore geology of the adjacent Atlantic margin.

Written applications, including curriculum vitae and the names of a minimum of three referees, should be sent to: **Dean of Science, Chairman of the Geology Headship Search Committee, Chemistry-Physics Building, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1B 3X7 by 30 August 1980.**

UNIVERSITY OF SASKATCHEWAN

The College of Medicine has an immediate opening for an **INFECTIOUS DISEASE PHYSICIAN—MEDICAL MICROBIOLOGIST**. The opening is for a tenure-track appointment at the level of assistant or associate professor in the Department of Microbiology. The successful applicant will be expected to teach in the medical microbiology program and to develop an independent research program in infectious disease. Moreover, a unique opportunity is available for a suitable candidate to undertake a leadership role in developing infectious disease clinical training programs at University Hospital. Salary is negotiable, commensurate with experience. Interested persons should reply to: **Dr. D. Eidinger, Head, Department of Microbiology, University of Saskatchewan, Saskatoon, Saskatchewan, Canada S7N 0W0.** Please provide curriculum vitae and names of three persons from whom letters of reference can be obtained.

INSTRUCTORSHIP in Department of Physiology, available autumn 1980, to teach respiratory physiology. Advanced degree, postdoctoral experience, and research productivity required. Candidate expected to engage in a research program in the field of regulation of respiration, especially that of neural regulation. Experience in neurophysiological research is required. Send curriculum vitae, including teaching experience and a summary of research plans, by 1 July, and arrange to have three letters of recommendation sent to: **Search Committee, Department of Physiology 206H, University of North Carolina, Chapel Hill, N.C. 27514. An Equal Opportunity/Affirmative Action Employer.**

LIPOPROTEIN BIOCHEMISTRY. Postdoctoral position available immediately for a recent Ph.D. with biochemical experience (protein isolation and characterization of structure and function) to participate in research on the structure, properties, and function of apolipoprotein B of intestinal origin. Reply with résumé and names of three references to:

**Dr. Godfrey S. Getz
Department of Pathology
Pritzker School of Medicine
The University of Chicago
Chicago, Illinois 60637**

MICROBIAL PHYSIOLOGIST. A full-time, tenure-track position at assistant professor level for a microbial physiologist, Ph.D. M.D., or D.Sc., with postdoctoral experience and a strong background in research. The primary duties include lectures to medical and dental students, and the guidance of graduate students in their research for fulfillment of graduate degree requirements. The successful candidate is expected to develop a research program of his/her own choosing in this field and to obtain extramural funding for this purpose. Please send curriculum vitae with three letters of reference to: **Dr. P. V. Liu, Acting Chairman, Department of Microbiology and Immunology, University of Louisville, Health Sciences Center, Louisville, Kentucky 40292. The University of Louisville is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

ORGAN FUNCTION PHYSIOLOGIST, PHARMACOLOGIST, or TOXICOLOGIST. Applicants should have a minimum of 5 years of postdoctoral experience in animal experimentation, with publications on cardiovascular, renal, gastrointestinal, or endocrine function. In vivo experience in normal and pathologic states preferred. Position involves the evaluation of physiologic effects of exposure of animals to industrial chemicals and the application of results to occupational hazard prevention. The individual selected will supervise two professionals. Salary from \$24,703 to \$29,375, depending upon qualifications and experience. This position is in the career Civil Service or PHS Commissioned Corps. Contact: **Dr. Trent Lewis, Chief, Experimental Toxicology Branch, National Institute for Occupational Safety and Health, 4676 Columbia Parkway, Cincinnati, Ohio 45226. Telephone: 513-684-8392. An Equal Opportunity/Affirmative Action Employer**

PHYSIOLOGIST, M.S. Immediate opportunity to teach physiology courses at first professional degree level at National College of Chiropractic. Appointment includes supervision and coordination of physiology laboratories. Good opportunity for advancement. Research is encouraged. Credentials and experience should warrant full-time rank. To apply, send curriculum vitae, and have official transcripts of all undergraduate and graduate education and at least three letters of reference forwarded to: **Dr. C. C. Kuehner, Director, Division of the Basic Sciences, National College of Chiropractic, 200 East Roosevelt Road, Lombard, Ill. 60148.**

POSTDOCTORAL (BIOCHEMISTRY, MOLECULAR BIOLOGY). Position in molecular endocrinology available immediately for studying peptide hormone synthesis and regulation. Experience in peptide purification and characterization; cell-free translation, nucleotide chemistry and sequencing recombinant DNA methods. Send curriculum vitae and three letters of reference to: **Dr. David Orth, Professor of Medicine, Vanderbilt University School of Medicine, Nashville, Tenn. 37232.**

POSTDOCTORAL/POSTGRADUATE POSITION, BIOCHEMISTRY. Available for 2 years to determine the amino acid sequence of pyruvate kinase in collaboration with the Bristol protein crystallography group. Further particulars from and applications to:

**Dr. L. A. Fothergill
Department of Biochemistry
The University
Aberdeen, Scotland**

POSTDOCTORAL FELLOW

NIH-sponsored Institutional Training Grant position available for postdoctoral fellow in heart muscle ultrastructure. Applicant must have a Ph.D. and experience in electron microscopy and in some aspect of muscle research. The candidate must also possess a resident visa or be a U.S. citizen. Send letter of application, curriculum vitae, and the names of references by 15 May to: **Dr. Thomas F. Robinson, Cardiovascular Research Laboratories, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, N.Y. 10461.**

POSTDOCTORAL FELLOW and RESEARCH ASSOCIATE positions available in protein chemistry and affinity labeling of purine nucleotide sites in enzymes. Postdoctoral stipend: \$14,000 to \$16,000. Research associate stipend: \$17,000 to \$19,000. Support available for 5 years. Send résumé and names of three references to: **Dr. Roberta F. Colman, Chemistry Department, University of Delaware, Newark, Delaware 19711. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS—Available under combined program of viral oncology and immunology, supported by NIH Training Grant. Areas of research of participating staff: (i) mechanism of integration and expression of DNA and RNA tumor viruses; (ii) immunochemistry of tumor antigens, immunoglobulin surface receptors; (iii) cellular immunology, with particular emphasis on macrophages and thymic cells; and (iv) genetics of cell differentiation and growth regulation. Background in cell biology, biochemistry, or immunology desirable. Candidates must be U.S. citizens or permanent residents; stipend level based on experience. Send curriculum vitae and references to: **V. Defendi, M.D., Department of Pathology, NEW YORK UNIVERSITY SCHOOL OF MEDICINE, 550 First Avenue, New York, N.Y. 10016. An Equal Opportunity Employer, M/F.**

POSITIONS OPEN

POSTDOCTORAL POSITION available for biochemist or virologist interested in studying the role of protein, phospholipid, and nucleic acid methylations in viral infections. Experience with cell culture systems would be desirable. Position available starting summer or fall 1980 and renewable. Salary: \$11,000 to \$13,000 per annum, depending on qualifications. Send curriculum vitae and two letters of recommendation to: **Dr. Ronald T. Borchardt, Smissman Research Laboratories, 2095 Avenue A, West Campus, University of Kansas, Lawrence, Kansas 66045.** Deadline for application: 15 May 1980. *Kansas University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION—IMMUNOPARASITOLOGY. Ph.D. in immunology or cell biology to work on *Trypanosoma cruzi* infections in mice. Salary: \$12,000; 2 years. Starting date: 1 August 1980. Send curriculum vitae and names of three referees to: **R. E. Kuhn, Ph.D., Box 7325, Wake Forest University, Winston-Salem, N.C. 27109.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION in biochemical endocrinology in a vital medical center, research on the molecular aspects of hormone-mediated uterine relaxation. Background in molecular endocrinology and/or biochemistry desirable. Send curriculum vitae and three references to: **Dr. B. Sanborn, Associate Professor, Department of Reproductive Medicine and Biology, University of Texas Medical School at Houston, P.O. Box 20708, Houston, Texas 77025.** *An Equal Opportunity Employer.*

POSTDOCTORAL POSITION available commencing July 1980 for Ph.D. or M.D. in the field of neuroendocrinology/neurochemistry. Successful applicant will join ongoing research in normal and tumor biosynthesis of peptide hormones, particularly of vasopressin, oxytocin, and neuropeptides. Send curriculum vitae and names of three referees to:

**Dr. William G. North
Department of Physiology
Dartmouth Medical School
Hanover, N.H. 03755**

POSITIONS OPEN

POSTDOCTORAL POSITION in connective tissue research. Appointment as research fellow or associate at Harvard Medical School is available for 2 to 3 years to work on aspects of the biochemistry of collagen and other structural macromolecules of bone and cartilage. Salary commensurate with experience. Please send curriculum vitae and names of two references to: **Dr. David R. Eyre, Orthopedic Research Laboratories, CHILDREN'S HOSPITAL MEDICAL CENTER, 300 Longwood Avenue, Boston, Mass. 02115.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH available immediately. Ph.D. in physical chemistry with 1 year of postdoctoral experience in molecular mechanisms of anesthesia. Extensive background and experience in statistical mechanics, surface chemistry, and FT NMR necessary. Salary: \$14,000 per year and benefits. Send résumé and three letters of recommendation to: **Dr. K. C. Wong, Department of Anesthesiology, University of Utah, Salt Lake City, Utah 84132.** *Equal Opportunity/Affirmative Action Employer.* Application deadline: 1 October 1980.

POSTDOCTORAL RESEARCH ASSOCIATE position available immediately to participate in pharmacological study of excitatory amino acid transmitters. Prior experience with electrophysiological techniques is desirable. Send curriculum vitae and names of at least two references to: **Dr. J. Victor Nadler, Department of Pharmacology, Duke University Medical Center, Durham, North Carolina 27710.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE POSITION—Available 1 July 1980. For studies on the regulation of delta-aminolevulinic acid synthetase and heme biosynthesis during aging. Ph.D. in biochemistry with experience in protein purification and membrane characterization preferred. Salary commensurate with experience. Send curriculum vitae and names of three references to: **Dr. Diana S. Beattie, Department of Biochemistry, MOUNT SINAI SCHOOL OF MEDICINE, One Gustave L. Levy Place, New York, N.Y. 10029.** *An Equal Opportunity Employer, M/F.*

POSITIONS OPEN

POSTDOCTORAL TRAINING IN ENVIRONMENTAL TOXICOLOGY

Center of Environmental Toxicology at Michigan State University (MSU) now offers postdoctoral training opportunities. The positions are available immediately. The candidates must have (or be in the process of completing) a Ph.D., M.D., D.O., or D.V.M. degree in any of the fields in basic science. Persons interested should send a letter of inquiry to:

**Dr. Fumio Matsumura, P.O.B. Number 99
Toxicology Steering Committee
Center of Environmental Toxicology
Michigan State University
East Lansing, Mich. 48824**

MSU is an Equal Opportunity/Affirmative Action Institution.

THE DEPARTMENT OF ZOOLOGY of the University of California, Davis Announces the vacancy of a PROFESSORSHIP in the area of ANIMAL ECOLOGY

The Department of Zoology has a position for a senior-level ecologist with an international reputation in the field of animal ecology. The person should have an exceptional record of productivity and have demonstrated excellence in both theoretical and empirical aspects of animal ecology. The candidate should have a vigorous current research program in ecology and have demonstrated competence in graduate training and undergraduate education. The appointment is at a full professor level; salary will depend upon qualifications and experience.

Applicants should forward curriculum vitae, including a list of all publications, copies of three recent significant publications, and the names of three references to: **Dr. J. A. Stamps, Chairperson of the Search Committee, Department of Zoology, University of California, Davis, Calif. 95616.** *The University of California is an Equal Opportunity/Affirmative Action Employer.* Closing date for receipt of applications is 30 May 1980.

CHIEF, TOXICOLOGY

The Developmental Therapeutics Program (DTP), Division of Cancer Treatment (DCT), National Institutes of Health, Public Health Service, invites applications for the position of Chief of the newly formed Toxicology Branch. The successful applicant will organize, plan, direct, manage and evaluate an extramural contract program to investigate and describe the qualitative and quantitative toxicities of potential antitumor agents and modalities in experimental animals. Research guidance will be provided for the development of organ specific toxicity assays and for investigations on the toxicity of second generation analogs. Toxicological assessments will be contributed to the preparation of investigational new drug applications. Incumbent will conduct continuous surveillance of the literature for new developments in the field of toxicological evaluation of synthetic and natural products which may be applicable to the needs of the DTP.

The applicant must have training to the M.D. or Ph.D. level (or equivalent) in pharmacology/toxicology or closely related fields with laboratory experience in cytotoxic drug pharmacology and/or toxicology for top consideration. At least five or more years of postdoctoral experience in biomedical research and administration is required with productivity being documented by publications, etc. Experience in administration of contracts is preferred over other administrative experience. The salary range of the position will be between \$34,713 to \$50,112 depending upon qualifications of candidate selected for position. Position may be filled either through Civil Service or the Commissioned Corps of the U.S. Public Health Service. U.S. Citizenship is required.

All candidates should submit a completed Standard Form 171 along with a separate curriculum vitae, bibliography and three letters of recommendation by May 30, 1980, to: **Dr. Vincent T. Oliverio, Associate Director, DTP, DCT, National Cancer Institute, Blair Bldg., Rm. 5A03, 8300 Colesville Road, Silver Spring, Maryland 20910.** Forms are available at Federal Job Information Centers and at Federal agency Personnel Offices.

This position has been identified for inclusion in the merit pay system. The successful applicant may be required to serve one year probationary period. An Equal Opportunity Employer.

NATIONAL INSTITUTES OF HEALTH

POSITIONS OPEN

POSTDOCTORAL POSITIONS

Postdoctoral positions (two) in: (i) the transport and molecular dynamics of copper utilization in isolated liver and intestinal cells, and (ii) the role of copper and related metals in the regulation of metalloprotein biosynthesis in eucaryotes. Area (i) involves identification of the components and processes involved and their relations to two diseases. Area (ii) requires experience in regulation of gene expression to test for specific effects on transcription and translation. Exposure to physical biochemical research on copper proteins within our Bioinorganic Research Group will be part of the experience. Please send curriculum vitae, including summary of research experience and interests, with two reference letters to: **Dr. Murray J. Ettinger, Department of Biochemistry, State University of New York at Buffalo, Buffalo, N.Y. 14214.**

POSTDOCTORAL POSITION available immediately for research in protein biochemistry. To study the pathway and kinetics of assembly of a bacterial multifunctional enzyme complex. Opportunity for experience in bacterial genetics. Background in protein chemistry and enzymology desired. Salary: \$13,000 per year. Send curriculum vitae, copies of publications, and three letters of reference to: **Dr. Ronald H. Bauerle, Department of Biology, Gilmer Hall, University of Virginia, Charlottesville, Va. 22901.**

JOINT UNIVERSITY-INDUSTRY POSTDOCTORAL POSITION

The University of Kentucky (UK) College of Pharmacy has an opening available 1 July 1980 for a Ph.D. in the natural products-biosynthesis area. Successful applicant will conduct work at UK and the Upjohn Company in successive years and will have the opportunity for training in synthesis of labeled compounds as well as fermentation microbiology. Some experience is desirable in one or both of these areas. Salary negotiable. Prospective candidates should submit résumés together with names of three individuals familiar with their research experience to:

Dr. Laurence H. Hurley
College of Pharmacy
University of Kentucky
Lexington, Kentucky 40506

The University of Kentucky is an Equal Opportunity Employer.

POSTDOCTORAL OR RESEARCH ASSOCIATE position in biochemistry to study the genetic and metabolic regulation of gene expression in cultured eukaryotic cells. Work includes analysis of cell-free transcriptional and translational systems from mammalian cells, as a function of growth, cell cycle, growth factors, and so forth, and from mutant mammalian cells and yeast. Send curriculum vitae and two letters of reference to: **Dr. Kivie Moldave, Department of Biological Chemistry, California College of Medicine, University of California, Irvine, Calif. 92717.** *The University of California is an Affirmative Action Employer.*

POSTDOCTORAL/RESEARCH ASSOCIATE available beginning summer 1980 for study on structural and physiological aspects of electrolyte transporting epithelia with particular emphasis on ionic mechanisms involved in the process of salt secretion and on stimulus-secretion coupling. Experience in electrolyte physiology desirable; background in techniques in cell biology useful. Position available for 1 to 3 years. Send curriculum vitae, summary of research interests, and three letters of recommendations to: **Dr. Stephen A. Ernst, Department of Anatomy, University of Michigan, Medical Sciences II, Ann Arbor, Michigan 48109.**

RESEARCH SCIENTIST II—SHELF DYNAMICS. Applications are invited for a 2-year research position specializing in the physical aspects of continental shelf and coastal ocean dynamics. Candidates with a special interest in theoretical and field data analysis problems in these areas will be given special consideration. Minimum qualifications: doctorate or equivalent professional degree and closely related research experience. Salary range: \$16,490 to \$25,650, depending upon qualifications. Send résumé, names of three references, and summary of research interests no later than 15 May 1980 to: **Wendell S. Brown, Department of Earth Sciences, James Hall, University of New Hampshire, Durham, N.H. 03824.** *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL/RESEARCH ASSOCIATE. Project studying human lysosomal phospholipases using biochemical and genetic approaches to basic and clinically relevant questions. Studies involve enzymology, enzyme purification, tissue culture, HPLC, and other techniques. Large biochemical genetic environment. Send curriculum vitae and letters of recommendation to: **Arthur L. Beaudet, M.D., Department of Pediatrics, Baylor College of Medicine, Houston, Texas 77030.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL TRAINING IN ENDOCRINE BIOCHEMISTRY. Research on one of a variety of problems involving cell-surface receptors on cultured mammalian cells and plasma membranes. Experience in tissue culture and protein isolation helpful. Position available now for 1 year, with renewal possible. Stipend from \$13,000, based on experience. Fringe benefits at faculty level. Send curriculum vitae to: **Dr. Melvin Blecher, Department of Biochemistry, Georgetown University Medical Center, Washington, D.C. 20007.** *An Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATES

OCEANOGRAPHERS. Postdoctoral fellowships for applicants with recent Ph.D. and competence and interest in research in marine chemistry or geochemistry. Duties will include some teaching and development of research projects. Salary: \$18,000. Submit résumé and names and addresses of three references by 1 June 1980 to: **G. Ross Heath, Dean, School of Oceanography, Oregon State University, Corvallis, Oregon 97331.** *Oregon State University, an Affirmative Action/Equal Opportunity Employer, complies with Section 504 of the Rehabilitation Act of 1973.*

RESEARCH ASSOCIATE IN PSYCHOBIOLOGY. Cincinnati Children's Hospital Research Foundation, Institute for Developmental Research, has a full-time position (nontenured) in the Division of Inborn Errors of Metabolism. Research project involves anatomic and behavioral correlates of early development and aging. It will require skills in neuroanatomy, embryology, teratology, and behavioral science.

Interested persons send résumé to: **Dr. S. Soukup, Children's Hospital Research Foundation, Elland and Bethesda Avenues, Cincinnati, Ohio 45229.**

Equal Opportunity Employer

RESEARCH ASSOCIATE

Available June 1980. Desire Ph.D. with experience in membrane enzymes to conduct experiments concerning purification of enzymes responsible for activation of carcinogens. Collaboration with other scientists working in organic synthesis, cell culture, and free radical aspects in membranes is necessary. Salary dependent on experience. Direct inquiries to: **Dr. Robert A. Floyd, Biomembrane Research Laboratory, Oklahoma Medical Research Foundation, 825 NE 13th Street, Oklahoma City, Okla. 73104.** *Affirmative Action/Equal Opportunity Employer.*

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO RESEARCH ASSOCIATE

Research position open immediately at University of California, San Francisco, Urology Department, for a neurophysiologist with interest in neural stimulation. Candidate to collaborate closely with investigators currently working on ongoing neural physiological research project. Send curriculum vitae and three professional references to: **Emil A. Tanagho, M.D., Professor and Chairman, Department of Urology M-553, University of California, San Francisco, California 94143.** Telephone: 415-666-1611.

RESEARCH ASSOCIATE—AGRONOMY. Available 1 June 1980. This is a temporary, 13-month, research associate position to conduct research on mechanisms regulating nitrate reduction in higher plants. Requires a Ph.D. in agronomy or closely related field, with emphasis on plant physiology or biochemistry, preferably with experience in enzymology. Salary: \$14,000 to \$15,000 per year. Send résumé, transcripts, and names and addresses of three persons who have been asked to submit letters of reference by 9 May 1980 to: **Dr. J. C. Engibous, Chairman, Department of Agronomy and Soils, Washington State University, Pullman, Wash. 99164.** *An Equal Opportunity/Affirmative Action Employer. Women, minorities, and handicapped persons are encouraged to apply and identify themselves as such in their applications.*

POSITIONS OPEN

PROFESSOR, CAESAR KLEBERG CHAIR IN WILDLIFE ECOLOGY, to provide research leadership in wildlife ecology and management, maintain liaison with wildlife organizations and institutions. Applicant required to have Ph.D. in wildlife ecology or related field, and demonstrated national and international leadership in wildlife ecology. Salary negotiable. Submit letter of intent, curriculum vitae, and names of three references to: **Dr. Wallace Klusmann, Head, Department of Wildlife and Fisheries Sciences, Texas A & M University, College Station, Texas 77843.** Closing date: 31 May 1980. *Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSISTANT, for work on human lung cancer, using cell culture and nude, athymic mice. B.A. (M.S. preferred) in biological science and experience in cell culture required. Responsible person to work in association with other actively involved members of interdisciplinary research team. Available immediately. Rural New England Medical Center. *Equal Opportunity Employer. Box 101, SCIENCE.*

RESEARCH ASSOCIATE LASER LIGHT SCATTERING IN SEMICONDUCTORS

The Department of Physics at Kansas State University expects to have a postdoctoral position available beginning 1 July 1980 to participate in a program of inelastic light-scattering studies of laser annealing mechanisms in semiconductors. Techniques will include ion implantation and Raman scattering with tunable pulsed and cw lasers. A background in semiconductor physics and/or laser light scattering is desirable. The initial appointment will be for 1 year but by mutual agreement may be extended for a second year. Applications should be sent prior to 1 June 1980 to: **Professor A. Compaan, Department of Physics, Kansas State University, Manhattan, Kansas 66506.** *Kansas State University is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH NUTRITIONIST

System Development Corporation has a position for a senior-level nutritionist who will participate in the evaluation of the National School Nutrition programs. This individual will be the resource person for all nutritional issues related to the study. Will also participate in study design, instrument selection, training for and quality control of data collection and data analysis.

The chosen candidate will have a doctoral-level degree in nutrition or an allied field.

If interested in applying for this position, please telephone or forward your résumé to:

Dorothy A. Cleveland
Telephone: 213-820-4111, extension 6426

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Applications sought for **SENIOR NEUROPATHOLOGIST.** University of Southern California (USC), School of Medicine, and Los Angeles County-University of Southern California Medical Center. Salary and rank commensurate with experience. California license and previous training in neuropathology required. Candidate should have a strong interest in teaching and scholarly activity. Reply to: **Chairman, Department of Pathology, USC, 2025 Zonal Avenue, Los Angeles, California 90033.**

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Located in Connecticut, 60 miles from New York City, nonprofit basic research institute affiliated with toxicology testing laboratory requires **TOXICOLOGIST** with minimum of 3 years of experience for part-time TOSCA-related studies in vivo and part-time in basic research projects. Submit curriculum vitae in confidence to: **Box 102, SCIENCE.**

VISUAL NEUROBIOLOGIST. Faculty position at the assistant professor level in the Department of Anatomy, University of Pennsylvania. Experience in intracellular recording from neurons in the visual cortex is desired, in addition to experience with contemporary anatomical approaches to the visual cortex. Applicants should send curriculum vitae plus three letters of recommendation to: **Dr. Andrew M. Nemeth, Search Committee, Department of Anatomy G3, University of Pennsylvania, Philadelphia, Pa. 19104.**

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E.R. Squibb & Sons is seeking a Senior Research Microbiologist experienced with animal infection models and antibiotics to lead a team of scientists in projects dealing primarily with in vivo screening of antimicrobial agents.

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STAFF FELLOWSHIP (Postdoctoral)

The National Cancer Institute, National Institutes of Health, Public Health Service, DHEW, has a Staff Fellowship opening in the Laboratory of Molecular Carcinogenesis. Applicants with backgrounds in the field of eukaryotic gene expression using DNA recombinant techniques will be considered. Salary range: physicians \$19,740—\$29,541, other doctorates \$15,120—\$28,818; plus benefits. To qualify an applicant must be a U.S. citizen or eligible for citizenship within 4 years; have been awarded a doctoral level degree or have university certification of completion of all requirements leading to a doctorate in a biomedical science or related field; also, applicants must have fewer than 3 years of professional level research experience.

HOW TO APPLY: Submit a PHS Form 3997, Application for Staff Fellowship program at the National Institutes of Health, in duplicate, a record of professional experience, transcripts of graduate college records, and a brief description of your doctoral dissertation.

SEND TO: Rufus S. Day, Ph.D., Acting Head, Nucleic Acids Section, LMC, DCCP, National Cancer Institute, Building 37, Room 3C25, National Institutes of Health, Bethesda, Maryland 20205, by May 15, 1980. Telephone: (301) 496-1470. An Equal Opportunity Employer.

NATIONAL INSTITUTES OF HEALTH

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Project on the Handicapped in Science

The Project on the Handicapped in Science seeks to improve the status and participation of handicapped scientists and to improve science education available to handicapped youth. An ongoing activity is to make professional meetings completely accessible to the physically disabled. Publications include *Resource Directory of Handicapped Scientists* (\$3.00), *Science for Handicapped Students in Higher Education* (\$3.00), *Barrier-Free Meetings* (\$4.00), and *Scientific and Engineering Societies: Resources for Career Planning* (in press).

For further information about the Project, its programs, and special publications (please enclose remittance when requesting copies), write to



American Association for
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SYMPOSIUM

FOURTH BRAIN-ENDOCRINE INTERACTION SYMPOSIUM "NEUROPEPTIDES: DEVELOPMENT AND AGING"

2 to 5 September 1980, Rochester, New York

The Department of Anatomy, University of Rochester School of Medicine, will host this fourth meeting in a series of international symposia on central endocrine systems. Morning and afternoon sessions will highlight endocrinologically important peptidergic neurons during development and aging. Also a session will be devoted to functional brain transplants. For information, write: Dr. John R. Sladek, Jr., Department of Anatomy, Box 603, University of Rochester School of Medicine and Dentistry, 601 Elmwood Avenue, Rochester, New York 14642; or telephone: Dr. David E. Scott at 716-275-2594.

GRADUATE STUDY

The Department of Biochemistry at The University of Texas Health Science Center at San Antonio invites applications for **GRADUATE TEACHING ASSISTANTSHIPS** for fall 1980. The department has vigorous research programs that cover a wide range of biochemical areas leading to the Ph.D. degree and is well equipped for research. Stipends for a 12-month period begin at \$5400. For more information, write to: Dr. Paul Horowitz, Department of Biochemistry, The University of Texas Health Science Center, San Antonio, Texas 78284. An Equal Opportunity/Affirmative Action Employer.

GRADUATE TRAINING IN ANATOMY

The Department of Anatomy at George Washington University is seeking candidates for Ph.D. training in anatomy. Only applicants who are interested in pursuing a career in anatomy or a related field need apply. Inquiries should be directed to: Dr. Kurt E. Johnson, Supervisor of Graduate Students, Department of Anatomy, The George Washington University Medical Center, 2300 I Street, NW, Washington, D.C. 20037. Telephone: 202-676-3511.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS are available in cardiovascular bioengineering (NRS awards from NIH) for training to begin 1 July 1979 at stipends of \$10,000 to \$13,200. The program is designed to provide a broad spectrum of training for medical scientists preparing for careers in research and teaching. Studies may be clinically related or in basic sciences, for example, cardiac mechanics, ion regulation. A strong background in basic sciences is desirable. Write: James B. Bassingthwaite, M.D., Ph.D., Cardiovascular Training Program, Center for Bioengineering RF-52, University of Washington, Seattle, Wash. 98195. The University of Washington is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIP IN PARASITE BIOCHEMISTRY

Research laboratory active in the study of purine and nucleic acid metabolism in *Leishmania* and *Trypanosoma*. Techniques used primarily are high performance liquid chromatography, scintillation counting, and tissue culture. Applicants should have some familiarity with these techniques and a background in biochemistry or cell biology with a biochemical orientation. Experience with tissue culture techniques is desirable. Please send curriculum vitae and three references to: J. Joseph Marr, Personnel Services, St. Louis University Medical Center, 1402 South Grand, St. Louis, Mo. 63104. An Equal Opportunity/Affirmative Action Employer, M/F/H.

Postdoctoral Fellowship in Membrane Biology: Corticosteroid Mechanisms in Kidney Cells in Culture. Candidates of varied backgrounds who wish experience in biochemical and physiological studies of epithelial cell systems in culture are encouraged to apply. Planned projects include the relationship between regulation of steroid metabolism and the physiological effects of steroids; interrelationships of receptor binding, ion transport stimulation, and the growth and development of epithelia as regulated by aldosterone and other steroids. Starting stipend is \$13,380 to \$17,040; starting date: June 1980. Queries to: Charles O. Watlington, M.D., Ph.D., Department of Medicine, Box 145, Medical College of Virginia-Virginia Commonwealth University, Richmond, Va. 23298.

FELLOWSHIPS

ASSISTANTS—TWO POSTDOCTORAL VIROLOGY FELLOWSHIPS available in Department of Microbiology, The Mount Sinai School of Medicine, City University of New York. Immediate starting date. Résumés only to: Dr. E. D. Kilbourne, Professor and Chairman, THE MOUNT SINAI SCHOOL OF MEDICINE, One Gustave L. Levy Place, New York, N.Y. 10029. An Equal Opportunity Employer.

NEW ZEALAND SENIOR AND POSTDOCTORAL RESEARCH FELLOWSHIPS

The New Zealand National Research Advisory Council invites applications for 12 senior and postdoctoral research fellowships to be taken up in New Zealand in 1981. The awards will be for scientific research in government departments. A good working knowledge of English is required. Successful candidates must meet the requirements of the New Zealand immigration authorities.

Return economy-class air fares and reasonable travelling expenses incurred in connection with the research work in New Zealand will be paid.

All emoluments are taxable.

Senior Research Fellowships—Applicants should have a distinguished record of scientific research and/or administration and possess expertise in a field of particular interest to New Zealand.

Postdoctoral Research Fellowships—Applicants should possess a Ph.D. or equivalent degree and have some research experience since graduation.

Application forms and further particulars may be obtained from:

National Research Advisory Council
Box 12240
Wellington
New Zealand

or any New Zealand diplomatic post overseas.

Applications must reach the Council's office by 1 September 1980. Late or incomplete applications will not be accepted.

POSTDOCTORAL FELLOWSHIPS CEREBELLAR PHYSIOLOGY

A postdoctoral position is available for a qualified individual to study the cerebellar cortex and cerebellar afferent and efferent systems. Ph.D. is required. Send résumé and three references to: James R. Bloedel, Department of Neurosurgery, University of Minnesota Medical School, Minneapolis, Minn. 55455.

UNIVERSITY OF PETROLEUM AND MINERALS DHAHRAN, SAUDI ARABIA POSTDOCTORAL FELLOWSHIP

Postdoctoral fellowship available from September 1980 (beginning date can be somewhat flexible) in the Physics Department, University of Petroleum and Minerals, Dhahran, Saudi Arabia, for theoretical work on laser isotope dating (Javed Husain, *Optics Communications* 29, 197 (1979); R. J. McFarland, Javed Husain, and L. D. Scheerer, *Bulletin of the American Physical Society* 24, 1185 (1979)). Initial appointment for 1 year but renewable upon mutual agreement. No teaching responsibility. Previous background in theoretical laser work desirable but not essential and good candidates with Ph.D.'s in other fields welcome to apply. Salary will be at least U.S.\$10,000 per year. No Saudi income tax. Free air-conditioned furnished housing. Free air transportation to and from Dhahran. Attractive educational assistance grants for school-age dependent children. Salary and benefits negotiable. Send bio-data to: Dr. Javed Husain, Physics Department, University of Missouri, Rolla, Missouri 65401.

HYPERTENSION RESEARCH FELLOWSHIPS. Fellowships in hypertension research for 2 years, for qualified applicants, are available at the Mayo Clinic and Mayo Graduate School of Medicine. This NIH-funded multidisciplinary program provides research training in hypertension by faculty in nephrology, endocrinology, cardiovascular diseases, pharmacology, pediatrics, biochemistry, and physiology. Applicants should have the M.D. or Ph.D. degree and hold a permanent visa if not a citizen of the United States. Degree programs leading to the master's or Ph.D. degrees are available to individuals with the M.D. degree. For further information, write to: R. M. Weinsilboum, M.D., Director, Multidisciplinary Hypertension Research Training Program, Mayo Clinic, Rochester, Minn. 55901.

Mayo Foundation is an Equal Opportunity/Affirmative Action Institution.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP available 1 July 1980 for research on the evolutionary genetics of parthenogenetic *Drosophila*. Send curriculum vitae to: Dr. Alan Templeton, Department of Biology, Washington University, St. Louis, Mo. 63130.

LA TROBE UNIVERSITY MELBOURNE, AUSTRALIA

LA TROBE RESEARCH FELLOWSHIPS—1981

Applications for research fellowships are invited from persons who have gained doctoral or equivalent qualifications within the last 5 years or who anticipate possessing such qualifications by 30 June 1981.

Applicants may propose independent research projects or projects involving collaboration with La Trobe University research workers or teams.

Two fellowships are available for offer in 1981. Each fellowship will be awarded for an initial period of 12 months with the possibility of renewal for a further maximum period of 12 months.

Salary offered is at the rate of A\$17,024 per annum.

Enquirers should indicate the research discipline involved. Application must be made on the University form available from the Graduate Studies Officer. Completed forms must reach the University no later than 31 July 1980.

Bundoora, Victoria, Australia, 3083, attention: D. D. Neilson, Registrar.

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STAFF FELLOWSHIP

The National Institutes of Health, Public Health Service, seeks a postdoctoral fellow for a research and development position with the Laboratory of Applied Studies, Division of Computer Research and Technology. The position will involve using mathematical methods and computers for modeling and solution of biomedical problems. Candidates should have a Ph.D. or equivalent in Mathematics, Physical Science, Biomedical Science, or related field. In particular, applicants are sought with advanced degrees in Applied Mathematics (including computer applications) and with strong biomedical interests. Majors in the Physical Sciences should have exceptionally strong mathematical training or extensive experience in mathematics and mathematical methods applied to the modeling of physiological processes via computers.

Initial appointment will be for two years with potential for one year extensions to a maximum of four years. Candidates must be a citizen or eligible for naturalization within 4 years. The appointment is expected to begin on or after October 1, 1980.

Contact or send resumes to: Mrs. Stella A. Graves, NATIONAL INSTITUTES OF HEALTH, 9000 Rockville Pike, Bldg. 12A, Room 3019, Bethesda, MD 20205. (301) 496-6951. An Equal Opportunity Employer.

**NATIONAL INSTITUTES
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CLINICAL DATA SPECIALIST

BIOMEDICAL OPERATIONS R & D

SmithKline Corporation, a diversified multinational pharmaceutical firm located in Philadelphia, Pennsylvania, is seeking an Associate Senior Investigator for its Biomedical Operations. Candidate must have a graduate degree or equivalent in Biological Sciences preferably Pharmacology, and the ability to interact with staff personnel from varied disciplines including clinical investigations, systems analysis and regulatory affairs. Training and experience in computer application to technical data and 3 to 5 years in industrial pharmaceutical experience desirable.

The successful candidate will:

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NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT NATIONAL INSTITUTES OF HEALTH PUBLIC HEALTH SERVICE DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

Opening Date: April 1, 1980

Closing Date: April 30, 1980

All applications must be postmarked by closing date

Director, Center for Research for Mothers and Children

The National Institute of Child Health and Human Development expects to appoint a permanent Director of the Center for Research for Mothers and Children. This Director is responsible for the development and operation of extramural programs (grants and contracts) related to the special health problems of mothers, children, adolescents and adults in the biomedical, social and behavioral sciences with special emphasis on pregnancy and perinatal biology, infancy, mental retardation, and human biological and behavioral development from conception to adulthood.

This is a Civil Service position in the Senior Executive Service (SES) with salary from \$47,889 to \$50,112.50 per year depending on qualifications. (Alternatively, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service). The SES individual selected, if not presently in the SES, must serve a one-year probationary period. Mandatory professional/technical qualifications are: a Doctor of Medicine together with research and/or clinical experience in one or more of the specialty areas of pediatrics, obstetrics or neonatology. In addition, candidates must meet the minimally qualified level of the following mandatory managerial/executive qualifications: evidence of management of a basic or clinical research program, demonstrating ability to assume leadership responsibilities in developing program

goals; representing the program to outside groups; directing program planning, execution, and evaluation; and conducting a fair and equitable employment program, including the attainment of EEO objectives. Candidates who meet the mandatory qualifications will be further evaluated by the Search Committee on the following factors: scientific peer recognition, scientific training and education, honors and awards and the degree to which they exceed the minimally qualified level of the mandatory managerial/executive qualifications. Additional information may be obtained from Mary Jane Meyers, Personnel Officer, NICHD, (301) 496-3365.

Applications (Personal Statement of Qualifications SF-171) are to be sent to the above individual at this address: National Institute of Child Health and Human Development, National Institutes of Health, Building 31, Room 2A25, Bethesda, Maryland 20205. A current curriculum vitae, bibliography and references and/or appraisals of performance must accompany all applications.

Applications of women and/or minority group members are especially solicited.

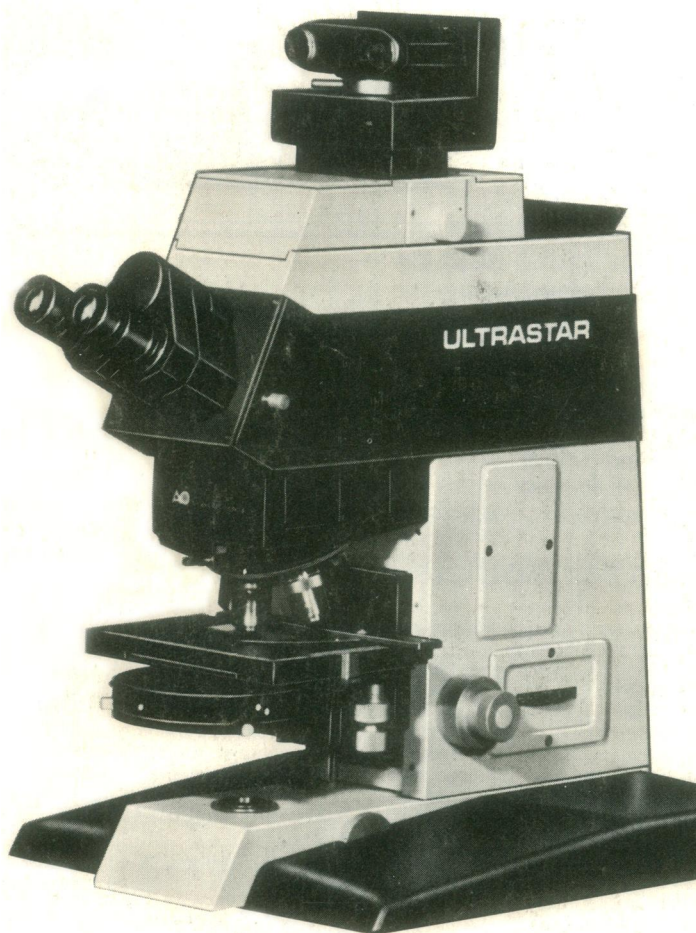
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