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dered subsequence of DNA that two DNA molecules have in common. If the two DNA molecules consist of m nucleotides and n nucleotides, respectively, an algorithm can find their longest common ordered subsequence in m times n steps. However, Peter Wiener of the Rand Corporation in Santa Monica, California, has now found an algorithm that can perform this operation in $m + n$ steps, a considerable saving if m and n are large.

Wiener made two assumptions that enabled him to find an algorithm consisting of $m + n$ steps. Neither assumption was included in the algorithm that requires mn steps. First, Wiener assumed that the algorithm must find only contiguous subsequences of DNA. (Because the genetic code is translated from contiguous sequences, it is not acceptable to choose a subsequence consisting of DNA nucleotides that are separated from each other on the DNA strand.) Second, Wiener assumed that the algorithm would be run on a random access computer—a computer with a large core memory that enables it to quickly recall information that is asked for by name. Computers with auxiliary memories, such as tape or drum memories, recall information much more slowly. Wiener's solution is thus extremely helpful to those who need this special case of the algorithm for research on molecular evolution and who have random access computers. It does not aid those who need the more general algorithm or who have more restricted computers. Although research on special cases usually precedes the development of unifying theories, unifying theories have not as yet been proposed for problems involving computer algorithms.

Ronald Graham of Bell Laboratories in Murray Hill, New Jersey, believes that the lack of combinatorial theories is due in part to the fact that combinatorics has traditionally not been considered a subject unto itself. Only recently, he says, have researchers emphasized the unity of combinatorics. Moreover, the large number of as yet unsolved problems makes it difficult to build theories. However, the recent rapid development of combinatorics is encouraging to those who, like Rota, believe that combinatorial theories are necessary to the future of the mathematical, physical, and life sciences.

—GINA BARI KOLATA

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Biochemist, Ph.D. 1972. Postdoctoral experience in lipid neurochemistry-metabolism. Strong analytical background in lipid methodology. Several publications. Desires academic, postdoctoral, or industrial position in New York State or New England. Box 17, SCIENCE. 3/1

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Electron Microscopist, M.S., with E.M. research, teaching and equipment maintenance experience. Desires position involved in these areas and laboratory management. Donald Bechtel, Department of Botany and Plant Pathology, Iowa State University, Ames, Iowa 50010.

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Fermentation Biochemist, Ph.D. 1967; 3 years of pilot plant research, 4 years' selling experience of investment properties. Seeks pharmaceutical marketing, scientific liaison. Chinese, permanent residence, multilingual. Box 689, Huntington Beach, California 92648. 3/8

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Broadly trained Geneticist, Ph.D. 1965. Two years of postdoctoral training; 38. Outstanding teacher, 15 years of professional experience. Special interest innovative undergraduate programs. 2266 Lake Circle, Jackson, Mississippi 39211. 3/1, 29

POSITIONS WANTED

Immunologist, Ph.D. 1974. Desires teaching and research position as assistant professor or immunology or of microbiology in a medical or graduate school department. Publications in immunology. Research interests include tumor immunology, the macrophage, B- and T-cell interactions in the immune phenomena. Box 111, SCIENCE. X

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Physiological Psychologist/Electrophysiologist, Young Ph.D. with postdoctoral research experience in learning and memory interested in research/academic position. Eight publications. Box 102, SCIENCE. 3/1

Polymer Organic Chemist, Ph.D. 1960, with strong biomedical background, extensive research experience in water-soluble and insoluble polypeptides, biodegradable/nonbiodegradable polyhydroxyacids, cyano-acrylates, and their characterization including successful applications in medicine and surgery, with number of papers seeks immediate employment on research/academic position of real challenge. Box 104, SCIENCE. 3/8

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Applications are invited from qualified persons holding Ph.D. and/or M.D. degrees to fill four positions, preferably at the Assistant Professor level, one in **Neuroanatomy**, one in **Gross Anatomy**, one in **Pharmacology**, and one in **Biochemistry** in the School of Basic Medical Sciences, Urbana-Champaign. Appropriate departmental predoctoral or postdoctoral training is essential.

Each position carries a joint appointment in one of the scientific departments on this campus. Teaching duties relate to curriculum development and supervision of medical student learning in an independent study program. Candidates must have demonstrated their capacity for original research as evidenced by publications of high quality.

The University of Illinois is an equal opportunity employer and encourages applications from women and members of minority groups.

Send applications, including curriculum vitae, publication list, important reprints, and at least three letters of recommendation to **Chairman, Search Committee, SBMS-UC, 1205 West California Street, University of Illinois, Urbana, Illinois 61801.**

ASSISTANT PROFESSOR OF MEDICINE

A position will be available 1 July 1974 in Wayne State University's School of Medicine, for M.D. Board certified in Internal Medicine, trained in pulmonary diseases, primarily to work in respiratory support unit. Responsibilities will include teaching, research, and related clinical care. Applications with curriculum vitae, bibliography and any other pertinent information should be sent to: **Dr. V. K. Vaitkevicius, Professor of Medicine, Chief of Medicine, Grace Hospital, 4160 John R Street, Detroit, Michigan 48201.**



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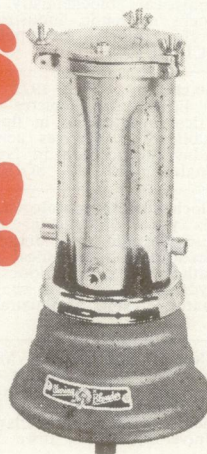
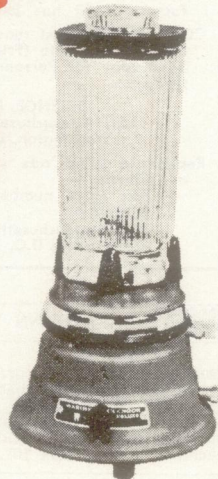


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Applications are invited for the post of Assistant Professor in the Department of Biochemistry (Head Designate, Dr. C. C. Bigelow), to take effect from 1 September 1974 or as soon thereafter as possible. The Department teaches undergraduates in the Faculty of Science, and has an active postgraduate research and teaching program. The successful applicant will be required to take part in the teaching duties of the Department, and to develop his own research program. The salary is negotiable, depending on experience.

Applications, including a curriculum vitae and the names of three referees, should be sent to Dr. E. A. Barnsley, Department of Biochemistry, Memorial University of Newfoundland, St. John's, Newfoundland, Canada, to reach him not later than 31 March.

ASSISTANT PROFESSOR OF ONCOLOGY

Three 1-year positions will be available 1 July 1974 in the School of Medicine of Wayne State University, for holders of the M.D. degree, Board certified in Internal Medicine, qualified or certified in the subspecialty of oncology. Specialists are required in the following areas:

- 1) Breast cancer management and experience in estrogen metabolism studies.
- 2) Experience in leukapheresis in conjunction with IBM Cell Separator, white cell typing, and leukokinetics.
- 3) Tumor immunologist with laboratory experience in blocking antibody determination.

Responsibilities will include teaching, research, and related clinical care. Applications with curriculum vitae, bibliography, and any other pertinent information, should be sent to: Dr. V. K. Vaitkevicius, Chairman, Department of Oncology, Wayne State University School of Medicine, 540 East Canfield, Detroit, Michigan 48201.

ASSISTANT PROFESSOR—PLANT ECOLOGY

Applications are invited for a new position in Plant Ecology, Ph.D. required. Duties to begin in September 1974. Primary teaching responsibilities will be to develop an integrated course in ecology and to teach an advanced course in field of special interest. People with a strong interest in research are especially invited to apply. Send curriculum vitae and three letters of references by 1 April 1974 to Dr. C. F. Herreid, Department of Biology, State University of New York at Buffalo, Buffalo, New York 14214.

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University of California, San Diego. Appointment at the Assistant Professor level for a physician who has been completely trained in pulmonary physiology and medicine and who has published fundamental research in areas relating immunology to pulmonary disease. Will have responsibilities in teaching clinical pulmonary medicine and general internal medicine; patient care in these two areas; independent research in pulmonary immunology. Please forward curriculum vitae and three letters of reference by 31 March 1974. Respond to Dr. Helen Ranney, Chairman, Department of Medicine, University Hospital, 225 West Dickinson Street, San Diego, Calif. 92103. *An Equal Opportunity/Affirmative Action Employer.*

ASSOCIATE CHIEF OF STAFF FOR RESEARCH, San Diego Veterans Administration Hospital, and Faculty Member, University of California, San Diego School of Medicine, La Jolla, Calif. Applications are sought for a physician with the necessary scientific and administrative background to coordinate the further development of the research program of this hospital. The candidate should be eligible for a senior academic appointment at the University of California, San Diego School of Medicine, and will be encouraged to participate in all of the activities of his particular department in the medical school and its hospitals.

The **DEPARTMENT OF BIOLOGY** at Hampden-Sydney College has an opening for either an Invertebrate Biologist or a Microbiologist. Experience in Histology and/or Parasitology is desirable. Candidates should have the Ph.D. degree and preferably a few years of teaching behind them. Hampden-Sydney College is a small (700 students), liberal arts college for men in southside Virginia. The emphasis is on undergraduate teaching. The sciences are housed in a new building with excellent teaching and research facilities. Interested candidates should contact Dr. T. H. Turney, Box 157, Hampden-Sydney, Virginia 23943.