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nation process to protect against recurrence of the incident. Vital to such a revision would be adequate representation of minorities, women, and the handicapped in the nomination process.

Report on Federal Impact Workshop Available from SMC

The report of a workshop on the impact of federal programs and policies on manpower planning for scientists and engineers has been published by the Scientific Manpower Commission (SMC), a participating organization of AAAS.

The workshop, conducted by the SMC and the Manpower Analysis and Planning Society of Washington, D.C., on 31 March to 1 April 1977 in Arlington, Virginia, provided an opportunity for exchange of information and insights among people both in and out of the government who implement, regulate, or enforce federal mandates on the labor market for scientists and engineers.

Representatives of federal, state, and local government agencies, educational associations, private employers, professional societies, women and minorities, and public interest groups discussed such issues as data collection efforts in the private and government sectors; the impact of federal funding and policies on the education and employment of scientists and engineers; the difficulty in making projections of supply and demand in science and engineering in terms of fluctuations in the job market; the parallel problem of changing federal policies and public attitudes toward science; and the current and future role of women and minorities in science and engineering in light of affirmative action and of changing societal expectations of their education and career choices.

Conclusions and recommendations ensuing from these discussions and summaries of individual presentations are included in a 56-page report entitled *Manpower Planning for Scientists and Engineers*, available for \$2, prepaid, from the Scientific Manpower Commission at the AAAS address. Also available from the same source for \$1.50 is the background report for the workshop, entitled *Supply and Demand for Scientists and Engineers—A Review of Selected Studies*, by Betty M. Vetter.

CLEARANCE

AAAS is having a sale. All of our 1969-1975 annual meeting audiotapes must be sold.

With prices slashed at least 1/3 off, you can buy several audiotapes for either personal or classroom use. Annual meeting tapes are recorded in sessions: some tape titles have only one session; others might have two or more sessions. Our sale prices are \$12 a session for cassette recordings or \$6 a session for open reel tapes.

Only a limited number of tapes are available in the following subjects:

BIOLOGICAL SCIENCES CHEMISTRY ENGINEERING
EARTH SCIENCES INFORMATION AND COMMUNICATION
MATHEMATICS AND LOGIC MEDICAL SCIENCES
PHYSICAL SCIENCES PSYCHOLOGY ANTHROPOLOGY
ECOLOGY ECONOMICS SOCIOLOGY EDUCATION

We don't have enough space to list all 149 titles, but you can find the information in the 1976 AAAS audiotapes brochure. If you don't have a brochure, write to AAAS Audiotape Program, 1515 Massachusetts Avenue, N.W., Washington, D.C. 20005.

Personnel Placement

Personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, or national origin.

Positions Wanted: 40¢ per word; \$10 minimum charge, per insertion. \$4 extra for use of box number. Prepayment required. Rate available only to individuals; personnel agencies, companies, colleges, and universities take display rate for all advertising.

Display (Positions Open, Market Place, and so forth): \$145 per 25 millimeters (1 column inch), minimum, per insertion (25 millimeters equals 10 lines of 50 spaces and characters each). Ads over 25 millimeters billed at \$5.80 per millimeter. No charge for use of box number. Rates net. No agency commission for ads under 4 inches. No cash discount. Prepayment required for foreign advertising. Purchase orders and billing information required for all other ads.

Advertising closing is each Wednesday, 3½ weeks before Friday issue date requested. Send copy for all positions wanted ads and display ads under 5 inches to:

SCIENCE, Room 207
1515 Massachusetts Ave., NW
Washington, D.C. 20005
Telephone: 202-467-4456

Send copy for display ads, 1/6 page and larger, to:

Scherago Associates, Inc.
11 West 42nd Street
New York, N.Y. 10036
Telephone: 212-736-1858

Blind Ad replies should be addressed as follows:

Box (give number)
SCIENCE
1515 Massachusetts Ave., NW
Washington, D.C. 20005

POSITIONS WANTED

Biochemist, Ph.D. 1970. Endocrinology. Steroid hormone profiles by RIA. Radioreceptor techniques. Enzyme assays. Experience in supervision of clinical laboratory. Research and development. Box 266, SCIENCE. 7/1, 8, 15

B.Sc., Dip.Ed., M.Sc., Ph.D. Training in teaching, research (steroid hormones, breast cancer, gastric ulcer), plus teaching and some administrative experience. Seeks university or college appointment; available immediately. 5420 Vaulin Street, Brosard, Quebec, Canada J4W 1P8. Telephone: 514-672-9550. X

Microbiologist—Biochemist. Ph.D. Postdoctoral research experience in separation of small molecules-polyamines. Doctoral research experience in biochemical genetics. Glycoprotein enzyme regulation and purification. Some clinical laboratory experience. Teaching in microbiology, genetics, and general biology. Seeks teaching, research, or administrative position. Box 260, SCIENCE. 7/1, 8

An experienced **Neurobiologist—Neurophysiologist**, M.D., principal investigator, and faculty member at medical school, seeks research or academic position. Grants. Publications. Box 261, SCIENCE. 7/1, 8

Pharmacologist, Biochemical. Ph.D. Broad research experience, drug metabolism, 10 years plus. Additional experience, cellular effects of drugs, biogenic amine metabolism, toxicology. Innovative; publications. Industry/government/academia. Box 267, SCIENCE. X

Physiologist/Biochemist. Ph.D. 1972. Seeking toxicology position at government-industry interface. Training in immunology, biochemical genetics, neurochemistry. Strong background in analytical biochemistry including GC-MS. Box 255, SCIENCE. X

Research Assistant/Technician desires challenging position in United States/Canada. Firm background in the molecular biology of embryonic chick muscle development. Excellent publications, references. M.Sc. initiated and executed without supervision (advisor abroad). Box 263, SCIENCE. 7/1, 8

POSITIONS OPEN

ANATOMIST

Assistant professor to teach undergraduate courses in gross, clinical, and neuroanatomy to students in allied health programs. Ph.D. in anatomy, neuroscience, or related field. Minimum of 2 years of teaching experience. Nine- or 12-month position available fall 1977. Application deadline: 15 July 1977. Send curriculum vitae, letter of interest, and three references to **Dr. R. H. Winters, Associate Dean, College of Health Related Professions, Wichita State University, Wichita, Kansas 67208**. An Affirmative Action/Equal Opportunity Employer.

ANIMAL/HUMAN PHYSIOLOGIST, Ph.D.

Assistant professor to teach courses in animal and human physiology. Training in electron microscopy is desirable. Teaching an EM course and codirecting the TEM facility operations are possibilities. This is a 2-year replacement position that could possibly become permanent. Submit résumé, two references, and supporting materials by 13 July to: **V. A. Thiesfeld, Department of Biology, University of Wisconsin, Stevens Point, Stevens Point, Wis. 54481**. An Equal Opportunity/Affirmative Action Employer.

THE OHIO STATE UNIVERSITY—Department of Chemistry is seeking to fill a faculty position at **ASSISTANT OR ASSOCIATE PROFESSOR** level in **analytical chemistry** preferably with research interests in separations or spectroscopy, to complement the teaching and research interests of the present staff. Candidates at the assistant professor level will be expected to demonstrate an ability to develop an outstanding research program. Ph.D. required, postdoctoral experience desired. Appointment at the associate professor rank will be considered for a candidate who has demonstrated high-quality, independent research. All applicants should submit a résumé, a statement of research interests, and have three letters of reference sent directly to: **Professor Devon W. Meek, Chairman, Department of Chemistry, The Ohio State University, 140 West 18th Avenue, Columbus, Ohio 43210**. Closing date for applications: 1 December 1977. An Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR: BIOCHEMISTRY

A faculty position at the rank of assistant professor will be available 1 January 1978. The primary requirement is promise of excellence in teaching and research, but preference will be given to applicants with demonstrated competence in some aspect of neurochemistry.

Applicants should submit a curriculum vitae and list of publications, a brief description of their proposed research, and the names of three references to: **Dr. Norman Kirshner, Department of Biochemistry, Duke University Medical Center, Durham, North Carolina 27710**.

Duke University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF PSYCHOLOGY. The Department of Psychology at the University of Southern California has a faculty opening which we hope to fill by fall semester 1977. We are seeking an individual with research interests in one of the following fields: **animal learning, experimental ethology, neuroethology, sociobiology, or behavior genetics (animal or human)**. The position is intended to provide support for a joint major between psychology and biology. Undergraduate instruction most likely will include courses in animal behavior and physiological psychology. Graduate courses will be tailored to match the specialty interests of the faculty member. Teaching load: two courses per semester. Salary dependent upon training and experience. Please submit curriculum vitae and letter of recommendation from primary sponsor to: **Dr. Ernest Greene, Department of Psychology, University of Southern California, Los Angeles, California 90007**. *University of Southern California is an Equal Opportunity/Affirmative Action Employer. Applications from all qualified individuals are welcome; women and minorities are encouraged to apply.*

CARDIOVASCULAR PHYSIOLOGIST

Assistant professor (Ph.D. and/or M.D.) with interests in cardiovascular research in conscious and unconscious animals, to collaborate in a fully equipped laboratory studying myocardial ischemia. Basic science department in a large medical center. Send curriculum vitae and two letters of reference to:

Box 268, SCIENCE

POSITIONS OPEN

ASSISTANT PROFESSOR OF PHYSIOLOGY

The Department of Physiology, Division of Neurobiology, School of Medicine, State University of New York at Buffalo is seeking an M.D. or Ph.D. **neurophysiologist**, capable of teaching several major areas of discipline to health science, medical, and graduate students; experiences in several laboratory techniques for advanced teaching; demonstrated outstanding potential for research in neurobiology at the cellular or system level; strong potential for setting up and developing own (grant supported) research program in a frontier field. Electrophysiological and biochemical instrumentation available to start the program; teaching obligations will initially be relatively light. Send inquiries to: **Professor Werner K. Noell, Chief, Division of Neurobiology (Physiology), Sherman Hall, School of Medicine, State University of New York at Buffalo, Buffalo, N.Y. 14214**. An Equal Opportunity/Affirmative Action Employer.

VISITING ASSISTANT PROFESSOR ZOOLOGY

To teach upper level courses in cell physiology and comparative physiology, participate in graduate program, and conduct original research. Qualifications: Ph.D. degree with specialization in an area of cellular physiology. One academic year appointment starting 1 September 1977. Send résumé to: **Box 57J, Waterman Building, University of Vermont, Burlington, Vermont 05401**.

An Affirmative Action Employer

WOODS HOLE OCEANOGRAPHIC INSTITUTION

ASSISTANT/ASSOCIATE SCIENTIST GEOPHYSICIST

The Woods Hole Oceanographic Institution invites applications from individuals interested in working in the field of marine geophysics with emphasis on the analytical aspects of seismic refraction or earthquake seismology. (A Ph.D. or equivalent is expected.) This is an excellent opportunity for an individual to work with ample and modern oceanographic facilities and to participate in a joint graduate educational program with MIT if desired. We wish to fill this position by late 1977. Write: **Chairman, Department of Geology and Geophysics, Woods Hole Oceanographic Institution, Woods Hole, Mass. 02543**.

An Equal Opportunity Employer, M/F

BIOCHEMIST—MOLECULAR BIOLOGIST

The Department of Biochemistry is seeking junior faculty members to be appointed as assistant professors beginning in the 1978–1979 academic year. Preference will be given to individuals with research interests in either the molecular biology of mammalian cells or the physical biochemistry of macromolecules. Applicants should forward a curriculum vitae with complete bibliography, summary of future research interests, and the names of three references no later than 1 October 1977 to: **Dr. Eugene G. Sander, Chairman, Department of Biochemistry, West Virginia University School of Medicine, Morgantown, West Virginia 26506**. *West Virginia University is an Affirmative Action/Equal Opportunity Employer.*

BIOLOGY: Small, liberal arts college committed to excellence in undergraduate education seeks broadly trained biologist with responsibilities for teaching developmental biology and another advanced undergraduate course at the cellular level, also involves participation in freshman and nonmajor courses as well as supervision of undergraduate research. Ph.D. required. Curriculum vitae and statements of teaching experience and interests should be sent to: **Dr. Paul D. Olexia, Chairman, Department of Biology, Kalamazoo College, Kalamazoo, Michigan 49007**. Salary, competitive and negotiable. *Equal Opportunity/Affirmative Action Employer*. Closing date for applications is 22 July 1977.

BIOLOGICAL SCIENTIST: Ph.D. to develop biology program at an undergraduate science and engineering institution with an established reputation and outstanding students. Requires teaching introductory courses and advanced electives in physiology, anatomy, and ecology. Begins September 1977. Contact **Dr. Thomas W. Mason, Rose-Hulman Institute of Technology, Terre Haute, Indiana 47803**.

POSITIONS OPEN

EASTERN VIRGINIA MEDICAL SCHOOL CHAIRMAN DEPARTMENT OF ANATOMICAL SCIENCES

Eastern Virginia Medical School of the Eastern Virginia Medical Authority is recruiting a chairman for the Department of Anatomical Sciences. Experience in any of the anatomical sciences is essential and commitment to an interdisciplinary integrated educational curriculum is required.

Applications from qualified candidates are welcome and should be received no later than 15 July 1977. Send curriculum vitae and recommendations to **Joseph T. McFadden, M.D., Chairman, Search Committee for Chairman Anatomical Sciences, Eastern Virginia Medical School, Box 1980, Norfolk, Va. 23501**. *The Eastern Virginia Medical School is an Equal Opportunity/Affirmative Action Employer.*

EASTERN VIRGINIA MEDICAL SCHOOL CHAIRMAN DEPARTMENT OF PATHOLOGY

Eastern Virginia Medical School of the Eastern Virginia Medical Authority is recruiting a chairman for the Department of Pathology. Experience in any of the areas of pathology is essential and commitment to an interdisciplinary integrated educational curriculum is required.

Applications from qualified candidates are welcome and should be received no later than 15 July 1977. Send curriculum vitae and recommendations to **Dr. Joe Mullen, Chairman, Search Committee for Chairman of Pathology, Eastern Virginia Medical School, Box 1980, Norfolk, Va. 23501**. *The Eastern Virginia Medical School is an Equal Opportunity/Affirmative Action Employer.*

CHAIRPERSON DEPARTMENT OF BOTANY MIAMI UNIVERSITY, OXFORD, OHIO

The Department of Botany at Miami University is seeking a chairperson beginning August 1978. The department, with 15 faculty members, 30 graduate students (M.S./Ph.D.), and approximately 170 undergraduate majors, carries out an extensive program of undergraduate and graduate instruction and research. Applicants must have a reputation for excellence in research and teaching. Inquiries and recommendations are welcome. Applicants should send curriculum vitae and solicit three letters of reference to arrive by 1 November 1977, to:

**S. E. Bohn, Chairman, Search Committee
Department of Mathematics and Statistics
Miami University
Oxford, Ohio 45056**

An Equal Opportunity/Affirmative Action Employer

BIOCHEMISTRY

CHAIRPERSON, with active research interests, for **Biochemistry Department, Dalhousie University, Halifax, Nova Scotia**. Excellent laboratory facilities in modern medical complex. Active, teaching program in undergraduate, graduate, and medical faculties. Please contact **J. D. Hatcher, M.D., Ph.D. Dean, Faculty of Medicine**.

CLINICAL IMMUNOTHERAPIST

To participate in clinical study of immunopotentiating agents combined with radiation therapy and surgery. Experience and training in immunotherapy required. Apply:

**Herman D. Suit, M.D., Chief
Department of Radiation Medicine
Massachusetts General Hospital
Boston, Mass. 02114**

An Equal Opportunity Employer

DEVELOPMENTAL PSYCHOLOGIST VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Assistant professor. The Department of Psychology at Virginia Tech invites applications for a faculty position beginning September 1977 or January 1978. Applicants should hold the Ph.D. in psychology with a concentration in human developmental psychology and have strong teaching and research commitments to this area. The Department of Psychology consists of 25 full-time faculty positions and offers the Ph.D. in several areas of basic and applied psychology. Send curriculum vitae to: **Dr. Charles D. Noblin, Chairman, Department of Psychology, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061**. *Virginia Tech is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

CHAIRMAN DEPARTMENT OF ANATOMY

West Virginia University seeks a chairman for its Department of Anatomy. Applicant should have Ph.D. in anatomy or hold M.D. or equivalent degree and have demonstrated competence in teaching and research. Interested individuals are invited to submit credentials to: **Nathaniel F. Rodman, M.D., Chairman, Anatomy Search Committee, Department of Pathology, West Virginia University Medical Center, Morgantown, West Virginia 26506** by 15 September 1977. *West Virginia University is an Equal Opportunity/Affirmative Action Employer.*

DIRECTOR GRADUATE SCHOOL OF BIOMEDICAL SCIENCES

A school of the University of Tennessee located in the Biology Division of the Oak Ridge National Laboratory

Candidates are sought for the position of director. The directorship, and five other faculty positions, are appointments of the University of Tennessee. The teaching and research supervision are conducted by these faculty members and the 80 staff members of the Biology Division, an ERDA laboratory 25 miles from the main Knoxville campus. Research emphases include genetics, biochemistry, cell biology and physiology, biophysics, immunology, developmental biology, toxicology, aging, and cancer biology.

The school has approximately 40 graduate students in the Ph.D. program and 35 postdoctoral fellows. The director is primarily responsible for the administration of the graduate program, the development of curriculum, and ensuring the recruitment of new students. The director is expected to maintain a research program, which, if it falls within the programmatic interests of ERDA, may be supported in part by that agency.

Those interested should send a résumé to: **Dr. John S. Cook, Chairman, Search Committee, University of Tennessee—Oak Ridge Graduate School of Biomedical Sciences, Biology Division, Oak Ridge National Laboratory, P.O. Box Y, Oak Ridge, Tenn. 37830.** *An Equal Opportunity/Affirmative Action Employer.*

DIRECTOR OF ANIMAL CARE

East Tennessee State University invites applications from, and nominations of, qualified individuals for the position of director of animal care of its developing College of Medicine which is being established in affiliation with the Mountain Home Veterans Administration Hospital and three community hospitals in eastern Tennessee. Letters of application or nomination for this position should include a curriculum vitae and three personal and professional references.

This individual must hold a D.V.M. degree and should have a minimum of 3 to 5 years of experience in participating in the direction and management of animal care facilities in a major medical center, academic installation, or research institute. A joint appointment is possible as director of animal care and as an assistant or associate professor in the Department of Pathology.

Consideration of applicants will begin on 1 August 1977 and continue until the position is filled.

Send applications or nominations to:

**Personnel Office
East Tennessee State University
P.O. Box 24070A
Johnson City, Tennessee 37601**

East Tennessee State University offers Equal Opportunity in its employment, admissions, and educational activities and is an Affirmative Action Employer.

EXPERIMENTAL PATHOLOGIST. Assistant professor with teaching and research responsibilities in the Department of Microbiology. Qualifications and responsibilities include: (i) Ph.D. or M.D. degree, (ii) teaching hematology to undergraduate and graduate students (spring quarter), (iii) teaching general pathology to first-year medical students in the WAMI Medical Program (winter quarter), and (iv) developing an independent research program in experimental pathology. Academic year appointment. Salary negotiable. Submit curriculum vitae, transcripts, and three letters of reference by 15 July to: **Dr. Norman Reed, Department of Microbiology, Montana State University, Bozeman, Montana 59715.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

DIRECTOR—WATER RESOURCES RESEARCH CENTER (WRRC) at the University of Minnesota is sought to assume aggressive leadership in water resources research.

The full-time position includes a joint appointment in an academic department on the Twin Cities Campus at the associate or full professor level, depending on qualifications and experience. Applicants must have a Ph.D. or equivalent experience in a water-related field and a minimum of 5 years experience in water resources research. Salary is negotiable. All interested individuals should submit a curriculum vitae and three letters of recommendation to:

**Dr. Steven J. Eisenreich
Chairman—WRRC Search Committee
Department of Civil and Mineral Engineering
University of Minnesota
Minneapolis, Minn. 55455**

An Equal Opportunity/Affirmative Action Employer

HARVARD UNIVERSITY

DIRECTOR, ARNOLD ARBORETUM

The Department of Biology invites nominations and applications for the position of Director of the Arnold Arboretum and Arnold professor of botany. Candidates must have a substantial academic reputation and proven administrative ability and experience in the direction of botanical research. The director has responsibility for a large collection of living woody plants, the Arnold Arboretum herbarium and library, and a large staff. Preferred area of expertise in some aspect of the biology of woody plants, especially systematics, evolution, genetics, or physiology. Position available 1 July 1978.

Letters of application or nomination with curriculum vitae should be sent by 15 August 1977 to: **Professor Otto T. Solbrig, Gray Herbarium of Harvard University, 22 Divinity Avenue, Cambridge, Mass. 02138.** *An Affirmative Action/Equal Opportunity Employer.*

EDITOR—MICROPALAEONTOLOGY PRESS

Applications are invited for an editorial and administrative position at the American Museum of Natural History to develop, administer, and provide leadership for Micropaleontology Press. The position is for either a full-time or half-time editor in charge. *Responsibilities:* establish and maintain policy for editorial matters; supervise editorial work and production of Microfossil Catalogues; edit micropaleontological manuscripts for a quarterly journal; supervise production of other intermittent types of publication; and maintain and develop contacts with industry and academic institutions. *Minimum qualifications:* thorough knowledge of the field of micropaleontology, preferably an established person with experience or interest as a technical (science) editor and with evidence of organizational and administrative competency.

The position will be available 1 July 1977. Applications should include (i) curriculum vitae and (ii) three letters of recommendation from persons familiar with applicant's qualifications as described above. Applications should be addressed to: **Dr. R. L. Batten, Department of Invertebrates, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024.**

An Equal Opportunity Employer, M/F

MAMMALIAN NEUROPHYSIOLOGIST with experience and scholarly publications, both experimental and theoretical, in area of higher sensory functions. Also required is competence in electrical engineering necessary for design and construction of complex mechanical stimulators. Please send résumé to: **Dr. Wm. Alden Spencer, Division of Neurobiology and Behavior, College of Physicians and Surgeons of Columbia University, 630 West 168 Street, New York, N.Y. 10032.** *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION PHYSIOLOGIST/BIOPHYSICIST

Strong research program and teaching competence preferably quantitative in orientation. The department prefers a major interest in neurophysiology, particularly spinal cord physiology, cerebral physiology, or the visual system. Exceptionally well-qualified individuals with interest in other areas of physiology will be considered. Rank dependent on qualifications. Send curriculum vitae and names of three references to: **Dr. Arnold L. Towe, Department of Physiology and Biophysics (SJ-40), University of Washington School of Medicine, Seattle, Wash. 98195.** *An Equal Opportunity Employer.*

POSITIONS OPEN

LECTURER to teach undergraduate microbiology. Ph.D. and related teaching experience required. One-year position 1977-78. Application letter, curriculum vitae, and two letters of recommendation to be received by 15 August 1977 (no telephone calls, please), should be sent to:

**Search Committee
Department of Bacteriology
University of California
Los Angeles, California 90024**

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

MARINE GEOLOGIST—SEDIMENTOLOGIST, M.S. or Ph.D. Immediate employment to do study of western Venezuelan Continental Margin and Lake Maracaibo for private research foundation. Laboratory in Isla de Margarita. Includes sediment composition, grain-size and distribution, geomorphology, and so forth. Working knowledge of Spanish desirable. *Applications from all qualified candidates welcome.* Send résumé, bibliography, and three letters of recommendation to: **Hno. Gines, Fundacion La Salle de Ciencias Naturales, Apdo. 8150, Caracas, Venezuela.**

MORPHOLOGIST/ELECTRON MICROSCOPIST. Applications are being accepted for an individual, Ph.D. or M.D., to direct the morphology research laboratory of the Pulmonary Division, Department of Medicine. This position will offer the opportunity for a joint appointment in the Department of Medicine and a basic science division. A fully equipped TEM and light microscopy laboratory is currently operational. Capability for assuming several ongoing research projects in pulmonary pathophysiology should be demonstrated. Academic appointment open, dependent upon qualifications. Some teaching expected with opportunity for graduate students. Initial support provided with expectation that individual's research will become self-supporting via outside grants. Salary competitive. Send curriculum vitae to: **Daniel J. Hurst, M.D., Director, Division of Pulmonary Medicine, Department of Medicine, University of Missouri, Columbia, Missouri 65201.** *An Affirmative Action/Equal Opportunity Employer.*

At the Institute of Physical Chemistry of the University of Zurich a recently vacated

Professorship in Physical Chemistry

is to be filled as soon as possible. Research in preferably spectroscopic - photochemical—kinetic direction and collaboration in the teaching of physical chemistry at all levels are expected.

Candidates of age up to about 45 are requested to send their curriculum vitae, list of publications and a short description of previous teaching experience before August 15th, 1977, to the Dean of the Faculty of Science (Philosophische Fakultät II) of the University, Rämistr. 71 CH-8006 Zürich, Switzerland.

POSITIONS OPEN

Position available immediately for **ELECTRONICS SPECIALIST** to work with a group of neurophysiological laboratories. Applicants should have experience in design, repair, and maintenance of electronics equipment; experience with neurophysiological equipment and minicomputers would be useful. Salary negotiable. Send résumé and references to: **Dr. David H. Cohen, Department of Physiology, Jordan Medical Education Building, University of Virginia School of Medicine, Charlottesville, Va. 22901.**

MICROBIOLOGIST/IMMUNOLOGIST

The Department of Biological Sciences invites applicants for an assistant professorship in microbiology/immunology to start September 1977 or January 1978. Applicants must hold a Ph.D. degree. The major teaching responsibility is the offering of two courses in microbiology and immunology to students in biology and medical technology. The salary range is \$12,500 to \$14,000.

The deadline for receiving applications is 1 August 1977. Applicants should send complete curriculum vitae, statement of research interest, and at least three letters of recommendation to:

**Search Committee
Department of Biological Sciences
Florida International University
Tamiami Trail
Miami, Florida 33199**

Oral Roberts University announces challenging opportunities for **MICROBIOLOGISTS** and **IMMUNOLOGISTS** to assist in developing medical and dental microbiology programs at a major university with a dynamic Christian life-style. Positions available for professors and associate professors. Medical and/or dental school teaching and research experience preferred. *Equal Opportunity Employer.* Send curriculum vitae to: **Dr. Vernon E. Scholes, Chairman, Department of Microbiology/Immunology, Oral Roberts University Schools of Medicine and Dentistry, 7777 South Lewis Avenue, Tulsa, Oklahoma 74171.**

MICROBIOLOGY LABORATORY INSTRUCTOR

Position available immediately to teach established undergraduate laboratory courses in general microbiology, virology, and bacterial genetics. One-year renewable appointment. Salary dependent on qualifications and experience. Send curriculum vitae and three letters of reference to: **Dr. Maurice Sussman, Department of Life Sciences, University of Pittsburgh, Pittsburgh, Pa. 15260. The University is an Affirmative Action/Equal Opportunity Employer.**

MOLECULAR VIROLOGIST OR IMMUNOLOGIST

Ph.D. or M.D. Assistant or associate professorship. To join department oriented toward the molecular biology and genetics of DNA tumor viruses and mammalian cells. Expertise in electron microscopy an asset. Readiness to learn or knowledge of French essential. Send applications to: **Dr. Pierre Bourgaux, Département de Microbiologie, Centre Hospitalier Universitaire, Université de Sherbrooke, Sherbrooke, Québec, Canada J1H 5N4.**

TWO POSTDOCTORAL POSITIONS available immediately for research in viral oncology. Work will be part of a program comprising genome structure analysis and genetics of oncogenic primate herpesviruses and characterization of transformed cells. Preference will be given to graduates with research experience (i) in nucleic acid biochemistry (restriction enzymes and/or electron microscopy) and (ii) in viral immunology. Appointments at the assistant professor level possible within 2 years. Send curriculum vitae and references to: **Dr. B. Fleckenstein, Division of Microbiology, New England Regional Primate Research Center, Harvard Medical School, One Pine Hill Drive, Southborough, Mass. 01772. Harvard University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS (two) available. Research in the neurochemistry of stress-related diseases (obesity and hypertension) and on the opioid polypeptides. Funded by a NIH grant. Biochemical assay experience required. Emphasis on the role of the biogenic amines. All equipment available for enzyme-isotope assays, microfluorimetric histochemical fluorescence, and behavioral and physiological measurements. Send curriculum vitae, letters, and reprints to: **David Margules, Ph.D., Department of Psychology, Temple University, Philadelphia, Pa. 19122.**

POSITIONS OPEN

POSTDOCTORAL FELLOW

Postdoctoral position for a Ph.D. in a multidisciplinary collaborative research group working on the soft and hard connective tissues supporting the teeth. Research includes the isolation, identification, culture, and hormonal regulation of cells and tissues derived from bone and soft connective tissues and gingival and dental epithelia and studies on metabolism and distribution of collagen. Position open for 2 years immediately post Ph.D. Salary \$12,500 in first year. Send résumé to: **Dr. A. H. Melcher, Room 4384 Medical Sciences Building, University of Toronto, Toronto, Ontario, Canada M5S 1A8.**

Immediate opening for a **POSTDOCTORAL FELLOW** who will participate in the development and evaluation of antitumor vaccine derived from microbial cell walls. Prefer individual in biochemistry or immunochemistry related to glycolipid or peptidoglycolipid; \$12,000 to \$15,000 per year (1 July 1977 to 1 July 1980). Contact: **Dr. K. M. Hwang, Section of Immunology, Department of Developmental Therapeutics, University of Texas System Cancer Center, Houston, Texas 77030.**

POSTDOCTORAL POSITION IN PHYSIOLOGY

Postdoctoral position in skeletal muscle physiology and biochemistry available fall 1977. The work deals with heat production and biochemical changes during contraction and the analysis of the mechanism of actomyosin ATPase using transient kinetics. Background in muscle physiology or protein biochemistry desirable. Send curriculum vitae and names of three references to:

**Dr. E. Homsher
Department of Physiology
Center for the Health Sciences
University of California
Los Angeles, California 90024**

Affirmative Action/Equal Opportunity Employer. Minority and women candidates are encouraged to apply.

POSTDOCTORAL POSITION IN MARINE CHEMISTRY at the University of North Carolina Institute of Marine Science, Morehead City. Applicants are sought with interests in:

- (1) Chemical exchanges across the sediment-water interface or
- (2) Chemical processes associated with the degradation of organic materials or
- (3) Rates of microbially mediated chemical reactions.

Send full details of research interests, curriculum vitae, and three letters of reference by 23 August 1977 to: **Dr. C. S. Martens, Marine Sciences Program, 12-5 Venable Hall 045-A, University of North Carolina, Chapel Hill, N.C. 27514.**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION available—**Dr. G. A. Granger, Department of Molecular Biology and Biochemistry, University of California, Irvine, Calif. 92716.** Position available for an individual with immunochemistry or protein chemistry background. Studying the assembly, activation, and individual members of the human and murine LT system involved as lytic effectors in lymphocyte mediated cell destructive reactions. *Applications from qualified candidates are welcome; women and minorities are encouraged to apply.*

POSTDOCTORAL POSITION

IMMUNOLOGY. Research areas in immunogenetics including use of synthetic polymers to study genetic control of immune response in mice; isolation, characterization of lymphocyte membranes, T-cell receptors, T-cell factors, and so forth. Experience in biochemical isolation techniques preferred. Apply with curriculum vitae to: **Dr. Paul H. Maurer, Department of Biochemistry, Jefferson Medical College, 1020 Locust Street, Philadelphia, Pennsylvania 19107.**

POSTDOCTORAL POSITION in membrane chemistry—tumor biology: position available for Ph.D. to join ongoing research program. Synthesis and assembly of virus-induced cell surface antigens and the chemistry of polysialic acid surface structures are the two problems currently under study. Background in biochemistry essential. Salary commensurate with experience. Send curriculum vitae and references to: **Dr. Frederic A. Troy, Department of Biological Chemistry, University of California, School of Medicine, Davis, Calif. 95616. The University of California is an Equal Opportunity Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION for Ph.D. or M.D. who desires advanced training in immunobiology and the biochemistry of lymphoid cells. Opportunity is available for teaching experience in laboratory sections of second-year medical microbiology course, if desired. Meritorious performance in research and teaching programs may be the basis for potential appointment to the faculty at the assistant professor level. Appointment available 1 September 1977 for 1 year with renewal for additional year if mutually agreeable. Annual salary range will be \$10,000 to \$12,000 depending on experience and other qualifications. Send curriculum vitae and names of three references to: **A. Arthur Gottlieb, M.D., Chairman, Department of Microbiology and Immunology, Tulane Medical School, 1430 Tulane Avenue, New Orleans, La. 70112. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available in protein chemistry, enzyme mechanisms, and affinity labeling of enzyme active sites for fall 1977. Recent Ph.D. in biochemistry. Apply with curriculum vitae and two references to: **Dr. Roberta F. Colman, Chemistry Department, University of Delaware, Newark, Delaware 19711.**

POSTDOCTORAL RESEARCH

Applications are invited for a position involving studies on immunological aspects of solid cancers. Background in biochemical and immunochemical techniques required. Experience with radioimmunoassay desirable. Excellent salary and benefits. Send curriculum vitae and references to:

**Department of Immunochemistry Research
Evanston Hospital
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POSTDOCTORAL RESEARCH ASSOCIATE

An opening for a postdoctoral research associate is available beginning 1 July 1977, for research in the immunology of caries. Applicants must be Ph.D.'s with training in immunochemistry. Send curriculum vitae and request two referees to send references to: **Dr. Pierluigi E. Bigazzi, Department of Pathology, University of Connecticut Health Center, Farmington, Conn. 06032. An Equal Opportunity Employer, M/F.**

POSTDOCTORAL RESEARCH ASSOCIATE

Ph.D. or M.D. interested in mechanism of glucose transport regulation. Experience in cell physiology, endocrinology, immunology, oncology, or biochemistry (ideally membrane chemistry) preferred. Send curriculum vitae and references to: **Dr. David M. Regen, Department of Physiology, Vanderbilt University Medical School, Nashville, Tennessee 37232.**

POSTDOCTORAL RESEARCH POSITIONS available for Ph.D. or M.D. in the field of membrane physiology and electrolyte transport. Background in biophysics or biochemistry preferred. Combined programs, Departments of Medicine and Physiology, with research opportunities in the following areas: control of urinary acidification in vitro, coupling between transport and metabolism, studies of active transport and ion selectivity in "tight" epithelia such as turtle colon and turtle urinary bladder. Send curriculum vitae, brief statement of research plans, and names of three references to: **Dr. P. R. Steinmetz, Department of Medicine, University of Iowa College of Medicine, Iowa City, Iowa 52242.**

Funding is available immediately for **POSTDOCTORAL STUDY** in metabolic regulation, membrane biochemistry, lipid-protein interactions, metalloprotein biochemistry, and immunobiochemistry. Send curriculum vitae and names of three references to: **Chairman, Department of Biochemistry, The University of Texas Health Science Center, San Antonio, Texas 78284.**

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POSTDOCTORAL TRAINING POSITIONS IN LIPID RESEARCH AND ARTERIOSCLEROSIS available for 1977 and 1978. United States citizens or permanent residents. Send résumé to: **Dr. D. B. Zilverman, Division of Nutritional Sciences, Cornell University, Ithaca, N.Y. 14853.**

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Candidates must have a strong background in observational or theoretical astrophysics. Physicists with experience in atomic spectroscopy, physical optics or gas dynamics will also be considered. The candidate will undertake independent research in solar physics, especially in such areas as the dynamics of the solar atmosphere, the interaction of magnetic fields and plasmas, or radiative transfer. In addition the candidate will assist scientific visitors to the observatory with their observing programs.

Sacramento Peak is a national facility for solar astronomy, sponsored by the National Science Foundation through a contract with AURA, Inc.

Send application, resume and three names of references to:

Director
Sacramento Peak Observatory
Sunspot, NM 88349

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ROTATORS

ROTATIONAL SCIENTIFIC POSITIONS WITH THE DIVISION OF ATMOSPHERIC SCIENCES, NATIONAL SCIENCE FOUNDATION

The National Science Foundation, in performing its functions of support of scientific research, seeks high-quality professional staff selected from a broad range of disciplines to carry out the review and evaluation of proposals and to recommend for support those proposals which are most meritorious from the scientific point of view.

Proposed "rotational" assignments will be of 1- or 2-year duration and are located in Washington, D.C. Candidates should be at the Ph.D. or equivalent level and have at least 8 years of independent research. Salaries range from \$28,725 and \$33,789 per annum for assignment as assistant program managers (GS-14 equivalent) or program managers (GS-15 equivalent), depending on qualifications and experience. Appointment to these positions will be made outside the competitive civil service, under the Excepted Authority of the National Science Foundation Act.

In addition to broadening the perspective of their own field, scientists working for the Foundation gain an understanding of the processing of federally sponsored research programs, including the setting of priorities and the procedures by which the Foundation operates. Since considerable benefit may be derived by communication of this experience to others upon return to their original post, candidates on leave of absence with definite plans to return to their original place of employment are preferred.

Vacancies to be filled in the Division of Atmospheric Sciences in the next 2 years will occur in the following areas:

meteorology	oceanography
atmospheric chemistry	paleoclimatology
solar-terrestrial physics	fluid dynamics
solar physics	aeronomy

Candidates interested in being considered for positions in these areas as vacancies occur either now or in later years should forward résumés indicating that interest to the attention of the **National Science Foundation, Division of Personnel and Management, Section III, 1800 G Street, NW, Washington, D.C. 20550**. All applications must be received by close of business 15 August 1977. *National Science Foundation is an Equal Opportunity Employer.*



Michigan Cancer Foundation

EPIDEMIOLOGIST - BIOSTATISTICIAN

The Michigan Cancer Foundation has a staff position open for a research-oriented individual with a doctorate in epidemiology or biostatistics. Some experience preferred, but not essential. The position involves developing cancer registry data into analytical reports and scientific monographs, and initiating new projects based upon the registry data. This is an excellent opportunity for collaborative studies in an urban area.

Submit curriculum vitae to:

Marvin A. Rich, Ph.D.
Vice President and Scientific Director
Michigan Cancer Foundation
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Appointment immediately available at the Rosenstiel School of Marine and Atmospheric Science, University of Miami, for a **RESEARCH ASSOCIATE** or **RESEARCH ASSISTANT PROFESSOR** with post-Ph.D. experience in biochemistry/physiology of marine algae. Candidates should have extensive knowledge of the isolation, determination, and genetic/biochemical regulation of marine algal organic substances and the determination of the chemical structure of toxins produced by marine organisms. Application, curriculum vitae, and names of three referees should be submitted to:

**Chairman, Search Committee (77/2)
Division of Biology and Living Resources
Rosenstiel School of Marine and Atmospheric Science
4600 Rickenbacker Causeway
Miami, Florida 33149**

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RESEARCH ASSOCIATES (2) IN REPRODUCTIVE BIOLOGY

The Department of Obstetrics and Gynecology, School of Medicine, University of Maryland, Baltimore, is seeking two individuals with a doctoral degree in biology, biochemistry, or physiology with competence in reproductive biology and/or cultured mammalian cell systems.

Candidates will participate in experimental studies involving ovarian tumors, female gametogenesis, and physiopathology of sex hormones.

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Contact:

**Isadore G. Ances, M.D.
Department of Obstetrics and Gynecology
School of Medicine
University of Maryland
Baltimore, Maryland 21201
Telephone: 301-528-6640**

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Ph.D./M.S. with multidisciplinary experience in weapons systems engineering and cost-effectiveness studies or quantitative economic analysis of R & D programs. Emphasis on U.S. Air Force weapon systems and on health care delivery systems. United States citizens only (security clearance). Résumés and salary history to **Analytic Services Inc. (ANSER), 5613 Leesburg Pike, Falls Church, Va. 22041**, an independent nonprofit corporation. *Equal Opportunity/Affirmative Action Employer, M/F.*

VIROLOGIST: assistant research virologist position is open for Ph.D. Virologist experienced in nucleic acid hybridization with RNA tumor viruses. Responsibilities include collaboration with present group and development of original investigation. Qualified candidates should submit a curriculum vitae and a list of references to: **Dr. D. P. Nayak, Department of Microbiology and Immunology, University of California, Los Angeles, School of Medicine, Los Angeles, Calif. 90024.** *Women and minority candidates are encouraged to apply.*

POSITIONS OPEN

STRATOSPHERIC CHEMIST

Appointment available at the Smithsonian Astrophysical Observatory for a person possessing a Ph.D. in physics or chemistry and experience in experimental molecular spectroscopy, far-infrared detection, Fourier-transform spectroscopy, stratospheric chemistry, and digital computer techniques. Responsibilities will include: determining rotational spectra and line strengths of atmospheric constituents; assisting in balloon experiments to observe the far-infrared stratospheric spectrum; reducing data and comparing results with existing theoretical models; publishing research results. Salary: \$12,000 to \$14,000. *We encourage applications from women and minorities.* Write to our **Personal Department, Smithsonian Astrophysical Observatory, 60 Garden Street, Cambridge, Massachusetts 02138.** Deadline for applications is 25 July 1977.

TOXICOLOGIST/PHARMACOLOGIST/ BIOCHEMIST

Ph.D. research associate with background in toxicology, pharmacology, and/or biochemistry. The individual has to be capable of carrying out original and creative research on toxicology and pharmacology. The research involves a series of studies on problems of significance to health of the eye and a study on the effect of polycyclic compounds on retinal-pigment epithelial cell growth in culture. Eye research experience not required. Teaching opportunities. Salary: approximately \$18,000, depending upon experience. Position available immediately. Send résumé with list of publications and three names of references to: **A. M. Potts, Ph.D., M.D., Chairman, Department of Ophthalmology, University of Louisville, 301 East Walnut Street, Louisville, Kentucky 40202.**

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UNDERGRADUATE TEACHING POSITION in anatomy and physiology available beginning 1 September 1977. Ph.D. in physiology or related area (anatomy, developmental biology) required. Must have high motivation for teaching; experience desirable; limited facilities for research available. Responsibilities include instructing students of health sciences and participating in the general biology program. Application deadline: 15 July 1977. Send résumés to: **Dr. Halit M. Kosar, Dean, Science and Engineering Division, Gannon College, Erie, Pa. 16501.** *Gannon College is an Equal Opportunity/Affirmative Action Employer.*

ZOOLOGIST/ANIMAL ECOLOGIST. 1977-78 academic year appointment as lecturer in interdisciplinary problem-oriented program in natural and environmental sciences. Candidate should have strong background in zoology and ability to participate in team-taught courses at both elementary and advanced undergraduate levels, including upper-level ecology and introductory biology courses. Position offers unusual opportunity to team-teach with experienced professors from variety of scientific disciplines. Ph.D. desirable but candidates who have completed all work except dissertation will be considered. Appointment begins 1 September 1977. Salary approximately \$12,500. Send curriculum vitae, transcripts, and names of three references by 20 July to: **H. J. Harris, College of Environmental Science, University of Wisconsin-Green Bay, Green Bay, Wis. 54302.** *An Equal Opportunity Employer.*

PROGRAM

UNITED STATES-FRANCE COLLABORATIVE PROGRAM ON HORMONAL REGULATION AND CANCER. Limited funds are available through a collaborative program of the National Cancer Institute and the Institut National de la Santé et de la Recherche Médicale to pay for **travel expenses** of American scientists to work in France for periods of up to a few months on appropriate collaborative projects with French colleagues. Similarly, limited funds are available to pay for the **living expenses** of French scientists while they work in the United States on appropriate collaborative projects with American colleagues. Information may be obtained from: **Dr. Robert Goldberger, Chief, Laboratory of Biochemistry, National Cancer Institute, National Institutes of Health, Bethesda, Maryland 20014.**

SYMPOSIA

The Biophysical Society is planning its **FIRST GENERAL DISCUSSION ON FAST BIOCHEMICAL REACTIONS IN SOLUTIONS, MEMBRANES, AND CELLS**, to be held at Airlie House, near Washington, D.C., from 3 to 5 April 1978. This discussion will consider modern techniques for studying processes with 10^{-3} to 10^{-12} second relaxation times. Particular attention will be given to biochemical and biophysical applications. The tentative program includes introductory lectures by L. DeMaeyer, Sir George Porter, D. Bradley, P. Rentzepis, and R. Berger. Papers accepted for discussion will be distributed for study by all participants 6 weeks before the meeting. The full discussion will appear as regular issue of the *Biophysical Journal*. A \$140 fee will cover 3 days' room, board, and registration costs, and preprints prior to the meeting. Pending receipt of outside funding, some support will be available for students and speakers. Papers submitted for the Organizing Committee's consideration are due as follows: *abstracts* (fewer than 300 words): 1 August 1977; *complete manuscripts* (to be reviewed and selected by 1 January 1978): 1 December 1977. **Biophysical Discussions, P.O. Box 30239, Bethesda, Maryland 20014.**

The American Malacological Union and the Systematics Association announce a **SYMPOSIUM ON THE EVOLUTION AND ADAPTIVE RADIATION OF THE MOLLUSCA**, 12 to 13 July, Naples, Florida (Beach Club Hotel). Participants include A. J. Cain, J. Murray and B. Clarke, D. Woodruff, N. Runham, P. Calow, E. Yochelson, R. Linsley, G. Oxford, K. E. Hoagland, and others.

Those interested in registering should contact: **Dr. George M. Davis, President, American Malacological Union, Academy of Natural Sciences, 19th and the Parkway, Philadelphia, Pa. 19103.**

TRAINEESHIPS

POSTDOCTORAL RESEARCH TRAINEESHIPS IN THE BIOLOGY OF AGING are available through the awarding of a training grant by the National Institute on Aging to a multi-institutional consortium which includes: the Fels Research Institute and Temple University College of Medicine, the Wistar Institute, the Medical College of Pennsylvania, and the Philadelphia Geriatric Center. This represents a cooperative effort between established research programs of R. C. Adelman, V. J. Cristofalo, and J. Roberts. The training experience will include intimate exposure to the use of experimental animal and cellular models, as well as their relevance to aging in human populations supervised by A. Woldow. Specific research problems will relate to the following: (i) the role of hormones in the loss of adaptive mechanisms; (ii) cellular aging and the regulation of cell proliferation; and (iii) drug action and pharmacological intervention, with particular emphasis on the aging nervous and cardiovascular systems. Interested persons should contact: **Dr. Richard C. Adelman, Fels Research Institute, Temple University College of Medicine, 3420 North Broad Street, Philadelphia, Pa. 19140**, including curriculum vitae, bibliography, and letters of recommendation.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP in clinical pharmacology available immediately. Ph.D. or M.D., with experience in drug level analysis and metabolism of psychoactive drug in man utilizing GLC, TLC, and related techniques. Stipend \$12,000 to \$14,000 depending on experience. Send curriculum vitae to: **R. C. Smith, Behavioral Neurochemistry, Texas Research Institute of Mental Sciences, 1300 Moursund Avenue, Houston, Texas 77030.**

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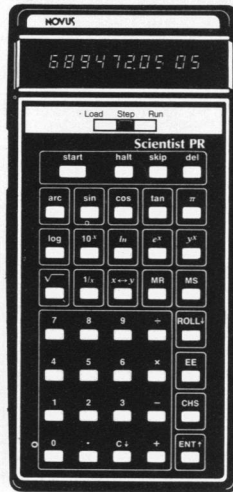
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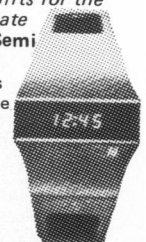
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