GLASSMAN, 64, roentgenologist and diagnostician and author, New York, 5 May; NATHAN W. GREEN, 84, retired surgeon, founder and former president of the American Society of Thoracic Surgery, Norwalk, Conn., 21 Apr.; ALBERT F. GUITERAS, 50, consulting chemist and director of Hudson Laboratories, former research coordinator, treasurer, and director of bacteriology and toxicology for Foster D. Snell, Inc., New York, 26 May.

ABNER KURTIN, 43, dermatologist and syphilologist, founder of the Albert Einstein College of Medicine of Yeshiva University, New York, 11 May.

GEORGE MILLER MACKEE, 77, dermatologist, professor emeritus of dermatology at New York University, consultant at Stamford and St. Joseph's hospitals in Stamford, Conn., and St. Luke's and St. Vincent's hospitals in New York, Stamford, Conn., 8 May; HARRY MANDELBAUM, 60, assistant in medicine and director of the hypertension clinic at the Jewish Hospital in Brooklyn, N.Y., and clinical professor of medicine at the State University of New York College of Medicine in Brooklyn, New York, 27 May; JOHN PUTNAM MARBLE, 58, research geochemist, chairman of the committee on measurement of geologic time of the division of geology and geography, National Research Council, Washington, D.C., 6 June; C. ERNEST MILLAR, 69, agronomist, retired head, department of soil science, Michigan State University in East Lansing, Beverly Hills, Calif., 27 Mar.

GROVER CLEVELAND NANCE, 72, former head of the geology and geography department of Winthrop College, Rock Hill, S.C., 24 May; PAUL SUMMER NICKERSON, 63, associate professor of education and psychology at The Citadel, Charleston, S.C., 15 May.

JOSEPH I. PASCAL, 65, ophthalmologist, adjunct ophthalmological surgeon at the Hospital for Joint Diseases, Beth David Hospital, and Harlem Eye and Ear Hospital, director of the eye department of Stuyvesant Polyclinic Hospital, and cofounder and former director of the American Institute of Optometry, New York, 22 Apr.; EDWARD C. PFAHL, 78, engineering consultant, Brookhaven, Miss., 18 Apr.; HAROLD ROMAINE PHALEN, 66, head of the department of mathematics at the College of William and Mary, Williamsburg, Va., 30 May; GEORGE W. MACPHERSON PHILLIPS, 67, chemical engineer with the U.S. Department of Agriculture's Eastern Utilization Research Branch, Philadelphia, Pa., 24 Apr.

WILLIAM C. REAVIS, 73, psychologist and an emeritus professor of education at the University of Chicago, Chicago, Ill., 1 June; JAMES VINCENT RICCI, 64, clinical professor of gynecology and obstetrics at New York Medical College, consulting gynecologist and obstetrician at Beekman-Downtown and Columbus hospitals, New York, 11 May; LISLE A. ROSE, 51, professor of general engineering and director of University of Illinois engineering and information publications, Champaign, Ill., 23 May; S. LEWIS RUBINSOHN, 69, surgeon and chief of proctology at the Einstein Medical Center, Northern Division, Philadelphia, Pa., 1 May; A. DAVID RUSSELL, president of the Russed Pharmacal Corp., New York, 5 June.

FERDINAND R. SCHEMM, 55, heart specialist, a founding director of the Great Falls Heart Research Institute in Great Falls, Mont., St. Louis, 16 May; CARL ALWIN SCHENCK, 87, forester, founder of the first school of forestry in the United States, Lindenfels, Germany, 16 May; ALFRED A. SCHILLER, 39, associate professor of physiology at the University of Illinois College of Medicine in Chicago, Ill., Palo Alto, Calif., 21 Apr.

ISADORE M. TRACE, 75, heart specialist, a founding physician of Mount Sinai Hospital, Chicago, Ill., and professor of medicine at Chicago Medical School, Chicago, 4 May.

ITZHAK VOLCANI, 75, founder and head of the Jewish Agency's agricultural experiment station in Rehovoth, Tel Aviv, Israel, 24 May.

PAUL A. WEBSTER, 52, specialist in silica analysis and chemist for the Hartford Empire Co., Hartford, Conn., 23 Apr.; HARRY WEISS, 63, physician and bacteriologist, adjunct physician at Mount Sinai Hospital, associate attending physician at Sydenham Hospital, New York, 21 Apr.; JOE YOUNG WEST, 51, science professor at Towson State Teachers College, Towson, Md., 29 Apr.; DONALD W. WHITLOCK, 61, research engineer for Keuffel and Esser Co. of New York, Orange, N.J., 19 Apr.; JOSEPH A. WHITTINGTON, 57, post engineer at Blue Grass Ordnance Depot, Richmond, Ky., 24 Apr.

Education

■ Concern over the nation's short supply of scientific manpower led a University of California scientist to take a new step in solving that problem. Arthur B. Pardee, assistant professor of biochemistry and assistant research biochemist in the university's Biochemistry and Virus Laboratory at Berkeley, launched a program for placing high-school science students in research laboratories for summer work.

At the end of March Pardee wrote to science teachers in some 30 high schools throughout the San Francisco Bay area. He asked them to discuss with their outstanding science students the prospect of summer work in research laboratories at the University of California and suggested that the students apply for the positions by letter.

Some 40 applications were submitted. Since only about 10 jobs were available at the university, Pardee has talked with research laboratories in industry and in other universities in an effort to place the students.

■ Four new graduate programs, three of them leading to the Ph.D. degree, will be offered by the Stevens Institute of Technology next September. The new degrees can henceforth be earned in the departments of chemistry, mathematics, and physics, which already award advanced degrees at the master's level.

The fourth new degree toward which Stevens graduate students now will be able to work is that of master of science in civil engineering. This makes civil engineering the eighth department in which the master's degree can be earned.

The eight departments now offer graduate degrees in 15 major areas of specialization in engineering and science. The three new doctoral programs bring to four the number of departments awarding the doctorate. The department of mechanical engineering already accepts candidates for the degree of doctor of science in applied mechanics.

■ An engineering psychology section has been established in the electrical engineering division of the Franklin Institute Laboratories for Research and Development. Ezra S. Krendel, who joined the laboratories' staff in 1949, has been appointed section chief.

■ The New York University College of Engineering will inaugurate programs in nuclear engineering and engineering science in the fall, and Dean Thorndike Saville states that the college has discussed with the U.S. Atomic Energy Commission plans for construction this summer of a subcritical nuclear reactor for laboratory use. The new graduate program, for which the degree of master of nuclear engineering has been authorized, is the first in the New York metropolitan area and among the first in the country.

The planned subcritical reactor would be the first of its kind at a university. It cannot maintain a chain reaction and therefore is appropriate for university classroom studies. Economical, safe, and accurate for experiments in undergraduate and graduate education in nuclear engineering, it would be built at a cost of a few thousand dollars. (The cost of constructing and installing operating research and industrial reactors amounts to millions of dollars.) Uranium would be on loan from the AEC.

If the project is approved by the AEC, the installation will be tested this summer at Brookhaven National Laboratory, Upton, N.Y., and moved in September to the basement of Butler Hall on N.Y.U.'s University Heights campus in the Bronx. The reactor will consist of a 5-ft tank of water in which 2 tons of uranium rods are placed. The neutron source, consisting of polonium and beryllium, will be housed beneath floor level and can be hoisted up among the uranium rods by remote control.

The program in engineering science will lead to the degree of bachelor of engineering science. It is designed chiefly for students who intend to do postgraduate work directed toward research and development. Thus, after a 4-year program in engineering science, a student could take postgraduate work in any of the specialized engineering fields: civil, aeronautical, chemical electrical, mechanical, nuclear, and metallurgical.

■ Training in the fundamental background for the design and operation of automatic control systems for science and industry will be the basis of a new graduate program to be offered at Harvard University next fall. The program in control systems engineering will offer educational opportunities leading to both the M.S. and the Ph.D. degree through the division of engineering and applied physics, Graduate School of Arts and Sciences.

Applications of control systems range from the processing of raw materials to the packaging of finished goods. Specific uses apply to oil refining, machining of metals, classification of freight cars, traffic control, telephone operation, and scientific computation. The Harvard program will stress design of integrated control systems, veering away from the present practices of building components and attempting to fit these into a system.

The program material will draw on a variety of disciplines, including mathematics and mechanical and electrical engineering. Requirements for the M.S. degree include successful completion of eight half courses that are selected by the student with faculty approval. The new course should be completed in one academic year. The doctor's degree will entail a minimum residence of 2 years, culminating in a thesis describing original research.

These curriculums are open only to students who have been admitted to the graduate school. Applications for admission to the first class this fall may be filed *until 15 Aug.* at the office of the Dean of the Graduate School of Arts and Sciences, 24 Quincy St., Cambridge 38, Mass. After the first year (1956–57) and following, applications and supporting papers should be filed before 1 May.

Grants, Fellowships, and Awards

■ At its recent annual meeting in New York, the Engineering Foundation of 29 W. 39 St., New York 18, approved applications totaling $61,850 for the 1955–56 fiscal year. In a number of cases the grant is contingent upon the project's being able to raise outside support.

The grants will further 26 research programs being carried out in university laboratories all over the country under sponsorship of the major engineering societies. The investigations range from column research, which has been under way long enough to give definite promise of safer and less expensive structures, to a new research program for predicting disastrous storm surges in time to prevent serious loss of life.

■ The Louis W. and Maud Hill Family Foundation has made a grant of $54,000 to the University of Minnesota for the purpose of inaugurating a 4-year program of summer institutes for high-school teachers of the physical sciences and mathematics. The grant will cover the costs for the first 2 years, when it may be extended if the program is successful. The departments of physics, chemistry, and mathematics will cooperate in organizing a program designed to fit the needs of the teacher now serving in the secondary schools.

■ The American Dermatological Association is again offering a series of prizes for the best essays submitted for original work, not previously published, related to some fundamental aspect of dermatology or syphilology. The purpose of this contest is to stimulate investigators to original work in these fields. Cash prizes will be awarded as follows: $500, $400, $300, and $200 for first, second, third, and fourth place, respectively. Manuscripts typed in English with double spacing and ample margins, together with illustrations, charts, and tables, all of which must be in triplicate, are to be submitted *not later than 15 Nov.*

The manuscripts should be sent to Dr. J. Lamar Callaway, Secretary, American Dermatological Association, Duke Hospital, Durham, N.C. Applications that are incomplete in any of the afore-mentioned respects will not be considered. Manuscripts should be limited to 10,000 words or less, and the time required for presentation of the prize essay may not exceed 30 min.

In order to aid fair judgment, papers should be submitted under a nom de plume with no information anywhere in the paper regarding the institution or clinic where the work was done. Along with the paper by "John Smith" for example, a plain sealed envelope bearing the nom de plume and the full name and address of the author should also be submitted. Only after all the papers have been judged and returned to the chairman are the sealed envelopes opened and the winners known.

Competition in this contest is open to scientists generally, not necessarily to physicians. The essays are judged on the following considerations: (i) originality of ideas; (ii) potential importance of the work; (iii) experimental methods and use of controls; (iv) evaluation of results; (v) clarity of presentation. This contest is planned as an annual one, but if in any year no paper is considered worthy of a prize, the award may be omitted.

The results will be announced prior to 1 Jan. 1956, and papers not winning a prize become the authors' property and will be returned promptly. Any paper that wins a prize becomes the property of the American Dermatological Association.

The candidate winning first prize may be invited to present his paper before the annual meeting of the American Dermatological Association with expenses paid in addition to the $500 prize. Further information regarding this essay contest may be obtained by writing to the secretary of the American Dermatological Association.

In the Laboratories

■ Two Norelco X-ray Diffraction Schools will be sponsored by the Research and Control Instruments Division, North American Philips Co., Inc., 750 South Fulton Ave., Mount Vernon, N.Y., during the coming months. The 21st week-long series of sessions will be held at the Sir Francis Drake Hotel, San Francisco, 26–30 Sept., and the 22nd series is to take place at the Hotel Knickerbocker, Chicago, Ill., 10–14 Oct.

Morning sessions will be devoted to lectures, and afternoon meetings will involve powder camera techniques, the x-ray diffractometer (diffraction goniometer), and the x-ray spectrograph (fluorescence analysis).

On Friday the schools will devote the day to actual application problems from the field, and a number of speakers will discuss details and methods in use in industrial plants and laboratories. No registration fee is charged, and those who wish to attend are urged to register as soon as possible, since accommodations will be limited.

■ At least half of 200 large companies engaged in research and development—all of them in essential industries—report shortages of research scientists and engineers, according to Alan T. Waterman, director of the National Science Foundation. On 6 June Waterman made