sponsored by the Alumni Fund, range in value from $1000 to $1400. In addition, a postdoctoral fellowship, open only to U. S. citizens and worth $3000, is offered for research in any field for which the College has appropriate facilities. Information may be obtained from the Dean of the School of Graduate Studies, Michigan State College, East Lansing, Michigan.

A detailed final report on the AEC fellowship programs in the physical and biological sciences, which provided support for 920 pre- and postdoctoral fellows from 1948 to 1953, has been published by the Oak Ridge Institute of Nuclear Studies. The AEC program was terminated following establishment of the National Science Foundation fellowship program in the sciences. Copies of the report may be obtained by offices or officials concerned with the administration of fellowship programs from the University Relations Division, Oak Ridge Institute of Nuclear Studies, P. O. Box 117, Oak Ridge, Tennessee.

Education

The Selective Service System has announced the signing of a Presidential Order raising the criteria for the deferment of students entering graduate schools after January 1, 1955, to standing within the highest quarter of the senior class or attainment of a minimum score of 80 in the Qualification Test. According to the Bulletin of the American Council on Education, the action was taken without prior consultation with the Council's Committee on Relationships of Higher Education to the Federal Government, a procedure usually followed in the past.

Selective Service Director Lewis B. Hershey, in an amended operations bulletin issued on September 28th, notified local boards that a "continuing flow of highly qualified and well trained men is needed by the Armed Forces and by essential defense supporting activities" and that careful consideration should therefore be given to "the deferment of sufficient numbers of qualified graduate students to assure an adequate supply of such personnel". When a local board is considering the case of a registrant previously deferred for graduate study, the directive continued, it should weigh carefully the advisability of permitting him to complete the work for his graduate degree, provided he is making satisfactory progress and will attain the master's degree in not more than two calendar years or the doctoral degree in not more than five calendar years of graduate study beyond the bachelor's degree.

The physics department of Florida State University at Tallahassee is now offering work leading to a PhD degree in physics, according to Guenter Schwarz, chairman of the department, who may be contacted for further information.

Laboratories

The irradiation facilities of Argonne National Laboratory, which include the experimental breeder reactor in Idaho, as well as the CP-5 heavy water research reactor and the 60-inch cyclotron at Argonne, have been made available to educational, research, and industrial organizations which can obtain AEC authorization for their projects. Argonne's services supplement those of Oak Ridge in the sense that special objects or substances can be irradiated and that isotopes with short half-lives or high specific activities can be supplied to Midwestern institutions more conveniently from Argonne. Charges for the reactor irradiations range upward from $15 per week, and for the cyclotron irradiations from $50 per hour. Further information can be obtained from Argonne National Laboratory, Special Materials Division, P. O. Box 299, Lemont, Illinois.

An isotope laboratory is to be constructed at the General Motors Technical Center north of Detroit to provide the wherewithal for radioisotope studies to be undertaken by the GM Research Laboratories. A General Motors spokesman said he believed that when the new laboratory is completed it will be one of the largest privately owned industrial isotope facilities in the United States. Plans for the proposed installation resulted from design conferences with the AEC's Isotope Division at Oak Ridge.

Formal dedication of the new International Business Machine Corporation research laboratory took place in Poughkeepsie, N. Y., on October 9th. The building adds 179 000 square feet to IBM's existing laboratory floor space, contains 155 laboratories and offices, and is intended to accommodate some 600 engineers and researchers. One wing of the laboratory is used for basic research projects and the other for applied research. Technical meetings and demonstrations are to be held in an acoustically designed auditorium where "voices at conversation level can be heard without echo in all parts of the room".

Publications

Protection requirements for operating personnel and others against the potential hazards of electron accelerators of the betatron and synchrotron types have been outlined in a 52-page NBS handbook containing the recommendations of the National Committee on Radiation Protection. Hazards resulting from the various radiations produced by the sources are included, as well as those from certain associated effects, such as noise and electricity. Recommendations are also given on a consistent system of units and measurement procedures that can be applied to radiations with energies above 5 Mev. The publication, issued as National Bureau of Standards Handbook 55 under the title, *Protection Against Betatron-Synchrotron Radiations up to 100 Mev*, can be obtained for 25 cents from the Government Printing Office, Washington 25, D. C.

Numerous high-altitude research stations exist throughout the world, but few of them are widely known. The lack of adequate information has delayed the efficient utilization of expensive and perhaps unique

facilities and has placed difficulties in the way of conducting some experiments properly. In order to remedy this state of affairs the Joint Commission on High Altitude Research Stations (JCHARS) was created by the International Council of Scientific Unions with the International Union of Biological Sciences as its parent body. Donald H. Menzel of Harvard College Observatory is currently president of JCHARS; the other American members are Robert Brode of the University of California and Serge A. Korff of New York University. The function of JCHARS is to acquire and publish information on high-altitude stations; for this purpose a comprehensive questionnaire was recently circulated to the directors of fifty such stations. Dr. Korff was in charge of preparing the resulting catalogue, copies of which are now available to interested persons and institutions upon request (address Dr. S. A. Korff, New York University, University Heights, New York 53, New York). The qualifications of the listed stations are primarily an altitude in excess of 7500 feet; their facilities are described in the booklet and range from nonexistent to primitive to adequate to sumptuous.

Scientific aspects of the International Geophysical Year, which is to consist of a series of coordinated world-wide observations during 1957–58 on geophysical phenomena with particular reference to solar-terrestrial relationships, have been dealt with in a symposium held at the 1954 Annual Meeting of the National Academy of Sciences. The papers presented there, which describe the motivation for the undertaking, have been published in the *Proceedings* of the Academy for October.

Proceedings are now available on short courses held at The Pennsylvania State University during June 1954, dealing with high-temperature properties of materials and mechanics of creep. The proceedings on the high-temperature properties of materials course were prepared by C. Zener, B. J. Lazan, G. V. Smith, M. J. Manjoine, W. D. Manly, and D. R. Miller. The proceedings of the mechanics of creep short course were prepared by J. E. Dorn, G. R. Irwin, L. F. Coffin, F. R. Shanley, G. D. Lubahn, and E. A. Davis. For further information, write Dr. Joseph Marin, Department of Engineering Mechanics, The Pennsylvania State University, State College, Pa.

Jerome Fleeman, an associate physicist at Brookhaven National Laboratory since August 1952, died on September 30th at his family's home in Miami, Florida. He was thirty-four years old. Dr. Fleeman received his BS in physics from the University of Michigan in 1943 and his PhD from Stanford University in 1949. During World War II he was connected with the Manhattan District at Los Alamos as a sergeant in the U. S. Army. After being honorably discharged from service, he joined the North American Aviation Corporation in California. From March 1950 to 1952, he was affiliated with the National Bureau of Standards and worked on the interactions of electrons with matter. After joining the staff at Brookhaven, Dr. Fleeman was engaged in a study of radiation effects in metals in the Solid State Physics Group. He was a member of the American Physical Society.

Gustaf W. Hammar, senior supervising physicist with the Navy Ordnance Division of Eastman Kodak Company, died in Rochester on August 19th. He was sixty-one years old. The Swedish-born physicist attended both the University of Idaho, receiving his Master's degree in 1924, and California Institute of Technology, where he received his PhD in 1927. He taught at Idaho from 1926 to 1946, being appointed head of the department in 1934. He joined Eastman Kodak in 1946. Dr. Hammar was a member of the American Physical Society.

John E. Hoyt, a former member of the Drexel Institute of Technology physics department, died in Philadelphia on September 12th at the age of seventy-five. A Tyndale fellow at the University of Pennsylvania from 1904 to 1906, Dr. Hoyt received his PhD from the University in 1911. He began his long association with the Drexel Institute in 1906 as a physics instructor, and after 1916 he served as head of the department (evening school). During World War II he worked as a research engineer with the Franklin Institute. He was a member of the Physics Club of Philadelphia, serving as president in 1927.

Theodore Lyman, Hollis professor of natural philosophy emeritus at Harvard University since 1926, died on October 11th at the age of 79. A native of Boston, Professor Lyman received his doctorate in 1900 at Harvard, where he had begun his investigations of the far ultraviolet spectrum under W. C. Sabine which led to his discovery of the fundamentally important series of spectral lines known as the Lyman Series. He also studied in Germany at Göttingen and in England under J. J. Thompson at Cambridge. During World War I he was commissioned a captain in the Army Signal Corps, serving at Chateau Thiery and St. Mihiel. He was an enthusiastic explorer and traveler as well as scientist, and early in the century he made trips into British Columbia and Alaska, British East Africa, and the Altai Mountains of Central Asia. Professor Lyman was associated with Harvard throughout his academic career. He became an instructor in the physics department in 1902 and by 1917 had risen to the rank of professor. He was named Hollis professor in 1921. He was also director of the Jefferson Physical Laboratory at Harvard from 1910 to 1947. The Lyman Laboratory of Physics was named in his honor upon his retirement. A former president both of the American Physical Society (1921–22) and the American Academy of Sciences, he was the recipient of the Academy's Rumford Medal (1918), the Elliott Cresson Medal of the American Philosophical Society (1930), and the Frederic Ives Medal of the Optical Society of America (1931).