

Education

Data on graduate students in the United States will soon be obtained by the National Science Foundation from some five hundred colleges and universities offering study beyond the bachelor's degree. The survey, one of a series of NSF studies of all phases of the nation's scientific activities, resources, and needs, is designed to give information on the total number of graduate students, the number of fellowship holders, the number of teaching and research assistantships available to graduate students, and the amounts and sources of funds for fellowships and assistantships. This will include funds from the government, educational institutions, industry, and private foundations. The questionnaire will be sent to all heads of graduate departments in the natural and social sciences and in the humanities to permit comparison of the amount of assistance available to graduate students in the sciences with that available in other fields. Before issuing the questionnaire, the Foundation is pre-testing the questions at George Washington University, the University of Pennsylvania, and the University of Indiana. Results of the preliminary survey will be included with the final study.

Pre- and postdoctoral fellowships for the academic year 1954-55 have been awarded by the National Science Foundation, the totals being 657 and 79 respectively. The predoctoral fellowships were about evenly divided among the first, intermediate, and terminal year graduate students, the great majority being in the physical sciences. 185 of the current awards were made to previous recipients of the fellowships. In the postdoctorate category, in contrast to the predoctorate awards, 36 were in the life sciences, 15 in chemistry, 13 in physics and astronomy, 12 in the mathematical sciences, 2 in the earth sciences, and 1 in the engineering sciences. The difference in the relative numbers of physical scientists in each group may reflect current employment trends. The postdoctoral stipends amount to \$3400 with allowances for dependents, etc., and the predoctoral ones vary between \$1400 and \$1800 depending upon the stage of graduate study of the recipient. The program of fellowships for 1955-56 will be announced next October, according to the NSF, and application forms will not be available until then.

The fourth annual session of the Summer School for Theoretical Physics, founded in 1951 as an Institute of the University of Grenoble and located near Les Houches in the French Alps, will be conducted from July 5 to August 28. The program includes seminars to be led by L. Van Hove (quantum mechanics); E. Fermi (role of the isotopic spin in meson physics and model for the calculation of high-energy nuclear collisions); R. Marshak (problems in high-energy nuclear physics); F. Dyson (quantum electrodynamics); and R. Glauber (problems in advanced quantum mechanics). Seminars will also be given in nuclear physics and field theory by Professors Heitler, Pauli, and Madame Tonnelat.

Special summer programs to be given this year at the Massachusetts Institute of Technology include, among others, intensive short courses in the following subjects: analogue computation, applied mechanics of textile structures, bioelectric signals, digital computers, food technology, high-temperature ceramics, industrial photoelasticity, infrared spectroscopy, mathematical problems of communication theory, metallurgical applications of x-ray diffraction, modern developments in heat transfer, operations research, physics of gaseous electronic devices, science teachers program, soil technology, transistors, transonic aerodynamics, and weather forecasting. In addition, more than 100 subjects from MIT's regular professional courses will be given during the summer in two six-week periods beginning June 14 and July 26. Further details may be obtained from the Summer Session Office, Room 7-103, Massachusetts Institute of Technology, Cambridge 39, Massachusetts.

Cornell University's annual summer laboratory course in techniques and applications of the electron microscope will be given June 14-26 by the Cornell Laboratory of Electron Microscopy in the Department of Engineering Physics and will be under the direction of Benjamin M. Siegel. Guest lecturers will include James Hillier and C. E. Hall. The course is designed for those research workers, institutional and industrial, who have recently entered the field of electron microscopy or who are now planning to undertake research problems involving application of the instrument. Further inquiries should be addressed to Dr. Benjamin M. Siegel, Department of Engineering Physics, Rockefeller Hall, Cornell University, Ithaca, New York.

Harvard Summer School is offering a new course on current developments in science for secondary school science teachers this year (July 6 to August 18), for which several special fellowships are available. The course, a continuation of the series in science education initiated by former President James B. Conant of Harvard, is designed to help teachers expand and strengthen their knowledge of basic concepts in the physical sciences, interpret new developments, and relate these concepts and developments to their own teaching. Harvard is also offering more specialized summer courses in physics and other sciences and a course on the philosophy of science by Max Black of Cornell. Further information can be obtained from the Harvard Summer School, 2-N Weld Hall, Cambridge 38, Massachusetts.

Research Notes

Photographing certain wind-tunnel phenomena presents an awkward problem when the field of view becomes narrow and elongated. A field measuring one by twenty inches can now be compressed to fit one frame of a 16 mm film with the help of a lens system producing different magnifications in two perpendicular directions, according to a report in the March Review of Scientific Instruments. The device has permitted