from the Office of Institutional Programs, National Science Foundation, Washington 25, D. C.

The Foundation has also announced two series of grants to aid summer study by teachers. Amounts totalling $711 500 have been given to colleges and universities this year to support 21 summer institutes for elementary-school teachers, supervisors, and principals who are concerned with science instruction in grades 1–6. The program provides opportunities for about 700 individuals to obtain supplementary training in science and mathematics with a view to improving the quality of elementary instruction. The grants cover all costs, including subsistence stipends to the participants.

To aid teachers at an advanced level, approximately $405 000 has been awarded by NSF for 25 summer conferences for college teachers of science, mathematics, and engineering. The conferences are of short duration (up to four weeks) and are intended for college staff members who must teach during the summer session. Participants will be selected by the individual conference directors, to whom inquiries and applications should be addressed. Conferences on physical subjects include the following:

Case Institute of Technology, Cleveland, Ohio: Molecular Structure and Spectroscopy (Gordon M. Barrow, Dept. of Chemistry)

University of Florida, Gainesville: Nuclear and Electron Spin Resonance (Wallace S. Brey, Jr., Dept. of Chemistry)

Georgetown University, Washington, D. C.: Recent Advances in Astro-Geophysics (Rev. Matthew P. Thekaekara, S.J., Dept. of Physics)

Princeton University, Princeton, N. J.: Non-Ideal Mechanical Behavior of Solids and Liquids (A. J. Maruca, Office of Dean of Graduate School).

The full list of conferences is available from the National Science Foundation, Washington 25, D. C.

Grants

The DuPont Company has announced that grants amounting to more than $1.69 million have been awarded to 161 colleges and universities in the company's annual aid-to-education program. A total of $654 700 was expended in direct support of teaching, including funds for assistantships and scholarships. Fundamental research grants totaled $490 000 for unrestricted research in physics, chemistry, chemical engineering, mechanical engineering, and metallurgy. Ranging in amount from $5000 to $20 000, they may be used in any way desired, including the support of graduate students and thesis research. An additional $48 600 was awarded by DuPont for summer research activities this year, and capital grants amounting to $500 000 were made to help with the cost of new buildings, equipment, or renovation of existing facilities.

The Division of Radiological Health of the US Public Health Service has awarded a grant to the Department of Radiology of Columbia University's College of Physicians and Surgeons. The award will provide financial aid to qualified students in the department's master's-degree program in radiological physics. Preference will be given to candidates sponsored by public-health agencies for work in their areas of responsibility or in closely related fields. Inquiries about the graduate program should be addressed to W. Gross, 630 W. 168th St., New York 32, N. Y.

Summer Programs

Massachusetts Institute of Technology will offer as one of its special summer programs a one-week course on "Signal Detection and Identification: Theory of Human Observers" from July 30 to August 3. The program is intended for those interested in research in psychophysics, in the design of man-machine systems, and in teaching general and engineering psychology. It will be directed by John A. Swets of the MIT Psychology Section and the Research Laboratory of Electronics. Lectures will be given by members of the MIT faculty and by guests from other universities.

Other summer courses to be conducted this year at MIT include two-week programs on radio astronomy, infrared spectroscopy, the structure of materials, and optical masers.

The course on radio astronomy (July 23 to August 3) is planned for engineers and scientists who desire a general survey of the techniques, results, and interpretations of radio astronomical observations. Discussions of the application of radio methods to atmospheric physics, planetary atmospheres, and space experiments will be included. Among the lecturers will be D. S. Heeschen (National Radio Astronomy Observatory), A. E. Lilley (Harvard), A. Maxwell (Harvard—Fort Davis), K. Menon (Ohio State), H. J. Smith (Yale), J. Evans and J. W. Meyer (MIT Lincoln Laboratory), and J. W. Graham, R. P. Rafuse, and A. H. Barrett of the MIT faculty. The program is under the direction of Prof. Barrett.

Two consecutive one-week courses at MIT will be devoted to infrared spectroscopy. The first, with the emphasis on technique, will be held from August 6 through August 10; the second, on the applications of infrared spectroscopy, will take place during the week of August 13–17. The course on technique will cover optical and electronic systems of infrared spectrometers, infrared spectrophotometry, techniques used to obtain spectra, and qualitative and quantitative analytical procedures. The course on applications will be devoted to a systematic study of the applications of infrared spectroscopy to the solution of chemical problems. Both programs will be directed by Dana W. Mayo, lecturer in chemistry at MIT. Lecturers will include Richard C. Lord (MIT), Foil A. Miller (Mellon Institute), Ellis R. Lippincott (University of Maryland), and, for the second course only, Lionel J. Bellamy (British Ministry of Aviation) and Robert S. McDonald (General Electric Research Laboratory).