SCIENCE EDUCATION

Summer Programs

A grant for support of an Institute for Theoretical Physics (to be held from June 18 to August 24) has been awarded by the National Science Foundation to the University of Colorado's Physics Department, which is sponsoring the Institute in cooperation with the National Bureau of Standards. Solid-state physics and relativity will be emphasized this year, and the definite participation of Professors N. Bloembergen, E. A. Uehling, J. Wheeler, and G. Gamow has been announced. During the ten-week session, a number of regular graduate courses will be given by visiting lecturers. These will include lectures on group theoretical approaches to nuclear spectroscopy (L. C. Biedenharn) and general theory of relativity (J. Weber). The steering committee for the Institute consists of W. E. Brittin, E. U. Condon, B. W. Downs, G. Gamow, and J. R. Oppenheimer. A number of postdoctoral and predoctoral stipends, including travel allowances, will be available. For full particulars, write to W. E. Brittin, Department of Physics, University of Colorado, Boulder, Colo.

The third Scottish Universities' Summer School in Physics, to be held from July 30 to August 18 at the University of St. Andrews with the assistance of NATO, is entitled, Excitations in Semiconductors: Polarons and Excitons. The provisional panel of lecturers will be G. R. Allcock and H. Frölich (Liverpool), F. C. Brown and D. Pines (Illinois), M. J. Buckingham (Sydney), R. J. Elliott (Oxford), H. Fan (Purdue), H. Haken (Stuttgart), T. D. Schultz (IBM Research Center, N. Y.), and T. Toyozawa (Tokyo). The fee for the course will be 20 pounds, including full board and lodging. Further information and application forms may be obtained from C. G. Kuper, School of Natural Philosophy, The University, St. Andrews, Fife, Scotland.

A course in the uses of information theory in science and engineering will be conducted at Dartmouth College from June 25 to July 6. Intended for scientists and engineers who have a working familiarity with applied mathematics, it will deal with an approach to probability and statistical inference which was originally developed and applied in physics by E. T. Jaynes of Washington University and which has been applied in engineering by Myron Tribus, dean of Dartmouth's Thayer School of Engineering. Both Prof. Jaynes and Dean Tribus will give lectures. The course will develop the theory of inductive reasoning and the principle of maximum entropy and apply them to thermodynamics, equilibrium and nonequilibrium statistical mechanics, communication theory, sequential testing, decision theory, and reliability engineering. Housing and dining facilities will be on the campus. Further information and application forms can be obtained by writing to Waldo Chamberlin, Dean of Summer Programs, 305 Parkhurst Hall, Dartmouth College, Hanover, N. H.

The National Bureau of Standards' Central Radio Propagation Laboratory at Boulder, Colo., will again present its summer course in radio propagation—this year between July 16 and August 3. Intended for persons with a bachelor's degree in physics, electrical engineering, or equivalent background and experience, the course will consider the propagation of radio waves in various media. For further details and application blanks, write to Edmund H. Brown, Education Director, Boulder Laboratories, National Bureau of Standards, Boulder, Colo.

Pennsylvania State University will offer three related one-week courses during its Summer Institute on Applied Mechanics and Materials Science. The first course (Mechanical Properties and Design, June 10–15) will deal with recently developed methods and theories for interpretation of stress-strain properties of engineering materials and their application to advanced design. The second (Dislocations and Mechanical Properties, June 17–22) is intended to acquaint engineers and metallurgists with the fundamentals of crystallographic imperfections and their applications to an understanding of the mechanical behavior of materials. The third course (Theoretical and Experimental Continuum Mechanics, June 24–29) will emphasize relations to viscoelasticity. Further information can be obtained from Prof. Joseph Marin, Department of Engineering Mechanics, Penn State University, University Park, Pa.

Case Institute of Technology is offering special courses on digital control systems engineering (June 18–29), tunnel diode electronics (August 20–31), process control theory (June 4–22), electrical techniques in biology and medicine (June 25–July 6), and analysis of nonlinear systems (July 9–20). Requests for application forms and information should be sent to H. B. Schultz, Jr., Manager of Special Programs, Case Institute of Technology, University Circle, Cleveland 6, Ohio.

Canisius College will hold its fourth annual Gas Chromatography Institute from April 24 to 26. The course will use as its text the *Proceedings* of last year's Institute, which have been published by Plenum Press of New York City. The director of the Institute is H. A. Szymanski, Canisius College, Buffalo 8, N. Y.