volving alterations in curricula, faculty time and effort, administrative procedures, and design of academic structures and equipment, including the utilization of land. Proposals submitted under the program must be genuine innovations, and they must be duplicable on other campuses. The beneficiary institution should be able to continue a successful project after the termination of the grant.

Applications are now being accepted for those projects which will begin in February of 1966. Further information can be obtained from Frederick Bolman, Director, Esso Education Foundation Special Programs, 49 West 49th Street, New York, N.Y. 10020.

Summer Programs

Arlington State College in northern Texas will hold a conference on relativity, sponsored by the National Science Foundation, from June 14 to July 2. Subject matter will include special relativity and some cosmology and nonmathematical general relativity. The material will generally be restricted to an undergraduate level. Lectures, discussions, study projects, and some experimental work will make up the program.

Letters of application and inquiry should be submitted as soon as possible to the conference director, Dr. Jason Ellis, Department of Physics, Arlington State College, Arlington, Tex.

The School of Environmental and Planetary Sciences of the University of Miami at Coral Gables, Fla., is inviting applications for fellowships to a six-week course lasting from June 21 to July 30. Sponsored by the North Atlantic Treaty Organization and the National Aeronautics and Space Administration, the course will emphasize geophysical fluid dynamics and advanced concepts in electromagnetic sensing, including utilization of satellites and rockets. Field trips will include visits to the Kennedy Space Center and to the volcano Irazu in Costa Rica.

Three years of college training in the physical sciences with mathematics through the advanced calculus

are required. Applications for fellowships, including a description of professional goals and an academic transcript, as well as three letters of recommendation, should be sent to S. Fred Singer, Dean, School of Environmental and Planetary Sciences, University of Miami, Coral Gables, Fla., 33124. Fellowship awards will be announced May 1.

The fourth annual seminar on energetics in metallurgical phenomena will be held at the University of Denver from June 21 to August 13. Topics will include nonstoichiometric compounds, thermodynamics and transport properties, phase transformations, and deformation processes. The seminar format calls for a series of four separate two-week lectures supplemented by informal discussions at scheduled times throughout the day. Attendance is open to all qualified persons for either the entire eight-week seminar or the individual two-week sessions.

Postdoctoral participants are eligible for stipends of $125 per week plus dependency and travel allowances, while predoctoral students can apply for $75 per week stipends and travel allowance. A letter of application, together with transcripts, curriculum vitae, and one or two letters of recommendation should be sent to Dr. William Mueller, Chairman, Department of Metallurgy, University of Denver, Denver, Colo., 80210.

The Italian Physical Society announces a series of three courses comprising this summer's Enrico Fermi International School of Physics which will be at the Villa Monastero in Varenna on Lake Como. The first course, from June 28th to July 10th, deals with the optical properties of solids, including general theory, interband transitions, excitons, plasmons, magneto-optical effects, phonons, Raman effect, and nonlinear effects. Closing date for receipt of application forms is May 14th.

The second course, covering high-energy astrophysics, will run from July 12th to July 24th. Observational results of radiogalaxies, quasistellar sources, supernovae, and cosmic rays will be discussed. In addition, the course will cover theoretical problems in general relativity, the equation of state in the relativistic domain, acceleration of particles to relativistic energies, relativistic equilibrium configurations, relativistic collapse, neutrino astrophysics, and related cosmological problems. Deadline for applications is May 28th.

Many-body descriptions of nuclear structure and reactions will be the subject of the third course which takes place from July 26th to August 14th. Areas covered will include review of the Hartree-Fock, Hartree-Fock-Bogoliubov-Valatin and random phase approximations, techniques for treating the residual interactions in specific situations, microscopic theories of collective states, the alpha-particle model, topics in nuclear reaction theory, configuration mixing in the continuum, and Green's function approach to finite nuclei. Applications must be received by June 11th.

In general, the courses will be taught in either English or French and will be limited to about forty students each. Application forms for the three courses can be obtained from the Società Italiana di Fisica, Via Irnerio 46, Bologna, Italy.

Elementary particle symmetries and axiomatic field theory will be the themes of the eighth Brandeis Summer Institute in Theoretical Physics, to be held this year from June 21 through July 30 on the Brandeis campus in Waltham, Mass. The Institute is built around courses of lectures at the intermediate to advanced graduate-student level. Lecturers on elementary-particle symmetries will be N. Cabbibo, CERN; R. E. Cutkosky, Carnegie Institute of Technology; B. W. Lee, University of Pennsylvania; F. E. Low, Massachusetts Institute of Technology; and L. Michel, Institut des Hautes Etudes Scientifiques. Lecturers on axiomatic field theory will be H. Epstein, Institut des Hautes Etudes Scientifiques; K. Hepp, Institute for Advanced Study; and D. W. Robinson, Max Planck Institut für Physik.

Because of support by the National Science Foundation and NATO, the Institute is tuition-free. Predoctoral and postdoctoral fellowships will be awarded to participants from Amer-

ica and Europe. For application forms or further information write to Mrs. Nita Goldstein, Secretary, Physics Summer Institute, Brandeis University, Waltham, Mass. 02154.

A school in transport theory will be held on the campus of the Middle East Technical University in Ankara, Turkey, from August 2 to 14. Sponsored by the North Atlantic Treaty Organization the school will be directed primarily to advanced graduate students and young research workers and college teachers in the subject area. The major topic will be neutron transport theory, but related phenomena in other fields, such as plasma physics and radiative transfer in stellar atmospheres, will also be discussed. Some funds will be available for those unable to obtain complete financial support elsewhere. Interested persons should write before June 1 to Prof. E. Inönü, Middle East Technical University, Ankara, Turkey, including academic record, research interests and publications, a letter of reference (for graduate students), whether financial support is available, and whether his family will accompany the applicant.

The Netherlands Universities Foundation for International Cooperation will hold its 1965 international summer course on waves and instabilities in plasmas from August 9 to 20, at the castle of 'Nijenrode', Breukelen, Holland. Sponsored by the North Atlantic Treaty Organization, the course will cover the theoretical basis for plasma wave phenomena and discuss some of the relevant experimental results. Special attention will be given to the study of conditions under which the waves become unstable, as well as possible stabilization mechanisms. All lectures will be given in English. Tuition fees will not be charged but each participant will be charged 250 Dutch guilders (approximately $69) to cover the costs of accommodation. (A limited number of scholarships covering this amount will be available.) Applicants must be acquainted with plasma physics at the graduate level and should file applications before May 1 with The Registrar, NUFFIC, 27 Molenstraat, The Hague, The Netherlands.