SCIENCE EDUCATION

Summer Programs

The Digital Computer Laboratory of the University of Illinois will conduct an eight-week, full-time undergraduate training and working program this summer, beginning June 16. The course will cover both the use and construction of computers, and interested students from any college or university in the US or Canada who will be juniors or seniors in the fall of 1964 are invited to apply. Successful applicants will receive stipends of $400 and travel expenses to and from Urbana.

Applications must be submitted by February 15. The required forms can be obtained from Professor J. R. Ehrman, Digital Computer Laboratory, University of Illinois, Urbana, Ill.

A Summer Institute in Plasma Physics will be held at Princeton University from June 29 to August 7, with curricula planned for both academic and industrial participants.

Introductory and advanced classes in theoretical plasma physics will be supplemented by lectures on experiments, and an optional curriculum in plasma and ion propulsion will be offered. A limited number of stipends will be available.

Further information can be obtained by writing to the Office of Summer Studies, Princeton University, 307 Nassau Hall, Princeton, New Jersey.

Ceramics Study at Denver

A program of graduate study in physical ceramics has been instituted at the University of Denver as part of the activities of the University's Metallurgy Department.

The new program will be concerned primarily with the properties and the response to the physical environment of ceramic materials, with emphasis on thermal, mechanical, optical, electrical, and magnetic properties. Contemplated research areas include thermophysical properties, failure processes, bonding in homogeneous and heterogeneous systems, and mass and energy transport in solids.

Both the MS and PhD degrees in metallurgy are offered, with a study and research option in physical ceramics. Various forms of financial aid are available for qualified students, some of which are government-sponsored programs with close application deadlines.

For further information write to Dr. William Mueller, Chairman of the Department of Metallurgy, University of Denver, Denver, Colo. 80210.

Visiting Scientists

Now in their seventh year, the AAPT/AIP Visiting Scientists Programs in Physics are expected to result in visits by scientists to some 120 colleges and universities and to 300 high schools during the 1963-64 academic year. Since September 1957, when the first of the programs was inaugurated as a joint activity of the American Institute of Physics and the American Association of Physics Teachers, over 300 distinguished physicists from the United States and abroad have paid visits to approximately 500 institutions of higher learning and 1500 secondary schools.

The programs, supported by a National Science Foundation grant, have as their primary objective (1) the stimulation of interest in physics among undergraduates through visits by leaders in physics research, (2) the provision of opportunities for local physics staff members to discuss their research and teaching problems with the visiting physicists, (3) the acquaintance of other members of the academic community and the public with recent developments in physics, and (4) the exploration of ways in which interest in physics in high schools can be stimulated by brief visits by prominent physicists.

This year, the programs are under the part-time direction of three well-known professors of physics: William W. Watson of Yale University, who is heading the college program, Henry Semat of the City University of New York, who is directing the high school

program, and Serge Korff of New York University, who heads the foreign visiting scientists program. In addition, the programs have the assistance of a full-time member of the AIP Education Department staff, Miss Marilyn Hodges. Further information pertaining to the programs can be obtained from the Visiting Scientists Programs in Physics at the Institute.

NSF Institutes and Conferences

The National Science Foundation has announced support in two categories for 1964 sessions of conferences and institutes intended to aid science teachers both in refreshing their knowledge of fundamentals and in keeping abreast of new developments in their specialties.

Summer Institutes for College Teachers will provide six-to-ten-week periods of instruction for more than 2100 college instructors in all scientific disciplines. Teachers attending the institutes will receive stipends of not more than $75 per week, allowances for travel, and allotments for dependents. Stipends are tax free. Participants in each case will be selected by the staff of the institute involved—*not* by the NSF. Inquiries and applications should be sent directly to the directors of the various institutes. Institutes dealing with physics and related subjects are listed below. The names of the directors are in *italics:*

University of California at Berkeley; *George Jura, College of Chemistry*; radiation physics

University of Kansas, Lawrence; *Gordon G. Wiseman, Department of Physics*; physics

Louisiana State University, Baton Rouge; *H. D. Richardson, Department of Mechanical Engineering*; radiation physics

Michigan State University, East Lansing; *J. A. Cowen, Department of Physics*; physics

New Mexico Highlands University, Las Vegas; *R. S. Weatherwax, Department of Biology*; biophysics and biochemistry

New Mexico State University, University Park; *E. L. Cleveland, Department of Physics*; physics

Manhattan College, New York; *C. Gabriel Kane, Department of Physics*; physics and radiation physics

University of Rochester, Rochester, N.Y.; *Robert E. Hopkins, Department of Optics;* physics and electrical engineering

Philadelphia College of Pharmacy & Science, Philadelphia, Pa.; *Arthur Osol, Department of Chemistry*; radiation physics

Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tenn.; *Ralph T. Overman, Department of Special Training*; physics

Texas A & M University, College Station; *John D. Randall, Department of Nuclear Engineering;* radiation physics

Texas A & M University, College Station; *J. G. Potter, Department of Physics*; mathematics and physics

The NSF-supported Conferences for College Teachers deal with newer developments in science and mathematics. They are of less than four weeks duration and supplement the summer institutes by enabling those who teach during the summer to familiarize themselves with recent advances in their fields. The 23 conferences scheduled for 1964 will accommodate about 668 teachers. Participants will receive per diem and travel allowances. Tuition and fees will be paid. Conferences which may interest physicists are listed below:

University of Florida, Gainesville; *Wallace S. Brey, Jr., Dept. of Chemistry;* nuclear and electron spin resonance

University of Illinois, Urbana; *Howard V. Malmstadt, Dept. of Chemistry and Chemistry Engineering*; electronics

Montana State College, Bozeman; *Kenneth Davis, Dept. of Physics*; electricity and magnetism

Princeton University, Princeton, N.J.; *Christie G. Enke, Dept. of Chemistry;* electronics

Oregon State University, Corvallis; *Harry Freund, Dept. of Chemistry;* electronics

University of Utah, Salt Lake City; *Austin L. Wahrhaftig, Dept. of Chemistry*; electronic transitions

University of Vermont, Burlington; *Cecil M. Criss, Dept. of Chemistry*; electronic transitions

Argonne and Small Colleges

Argonne National Laboratory and a dozen liberal arts colleges in the Chicago area have joined in a program to make available expensive specialized laboratory equipment to students from small colleges.

Under the program, Argonne's Institute of Nuclear Science and Engineering provides equipment for experiments in nuclear radiation detection and measurement, physical chemistry, radioisotopes, digital and analog computers, x-ray diffraction and crystal structure, neutron physics, and radiation safety. The students, five to seven from each college, visit the laboratory for half-day sessions several times during a semester, with faculty from the participating colleges providing the instruction. An additional program permits two- and three-day visits by students from four more distant colleges.

The institutions taking part in the program include Aurora College, Concordia College, Elmhurst College, Lewis College, Mundelein College, North Central College, Rosary College, College of St. Francis, St. Procopius College, St. Xavier College, Wheaton College, and George Williams College, (all in Illinois); Carroll College and Alverno College (Wisconsin); St. Joseph's College (Indiana); and Clark College (Iowa).

NSTA

The National Science Teachers Association has issued three publications relating to elementary and secondary-school science education.

Science Facilities for Our Schools, Stock No. 471-14408, $1.50, reports on a study undertaken by the NSTA with financial support from the Laboratory Equipment Section of the Scientific Apparatus Makers Association. This 26-page booklet covers trends and influencing factors in science education, general principles for planning facilities, specifically recommended facilities for elementary schools and junior and senior high schools, a discussion of the effects of the Title III section of the National Defense Education Act, under which funds are available for modernizing equipment, and a list of conclusions, recommendations, and implications arising from the report.

Ideas for Teaching Science in the Junior High School, Stock No. 471-14184, $4, contains 257 pages of articles reprinted from the NSTA journal, *The Science Teacher.* The contents are divided into two sections, general articles on various topics and specific instructional ideas. The latter section forms the bulk of the volume, and is itself divided into sections on the earth and space sciences, biology, physics, and general utility ideas.