SCIENCE EDUCATION

Courses

Beginning June 17, 1963, a limited number of advanced undergraduates will take part in an eight-week, noncredit training and working program in the use and construction of computers, to be conducted by the Digital Computer Laboratory of the University of Illinois. Students in residence at any college or university in the United States or Canada who will be juniors or seniors in the fall of 1963 and who are interested in learning about and working with stored-program digital computers have been invited to apply for admission. Successful applicants will receive a stipend of $400 plus travel expenses. The closing date for receiving applications is February 15, 1963.

Application forms and information concerning the program can be obtained by writing to Prof. C. W. Gear, Digital Computer Laboratory, University of Illinois, Urbana, Ill.

The Quantum Theory Project of the University of Florida, in collaboration with the Quantum Chemistry Group of the University of Uppsala, is arranging a third Winter Institute in Quantum Chemistry and Solid-State Physics. It will be under the direction of Per-Olov Löwdin and will be similar to the two previous institutes, with support again being provided by the National Science Foundation.

The purpose of the winter institutes is to provide a consideration in depth of the modern mathematical research methods and conceptual basis of the quantum theory of matter. There will be a preparatory course (December 3–8) for those wishing a review of elementary quantum chemistry, but the main course will be held from December 10 to January 12. It will be followed by a symposium (January 14–19) in honor of E. A. Hylleraas on the subject of atomic and molecular quantum theory. Symposium speakers will include E. A. Hylleraas, J. O. Hirschfelder, A. Pullman, B. Pullman, L. Jansen, and J. de Heer. During the period December 3–29, the Institute will meet on the University of Florida campus; from December 31 to January 19 its site will be Sanibel Island, Fla.

Information and application forms can be obtained by writing immediately to D. W. Smith, Chemistry Department, University of Florida, Gainesville, Fla.

The University of California at Berkeley has instituted a graduate program in systems, information, and control which is intended for mathematicians, physicists, and other mathematically oriented scientists, and is designed to lead either to the MS or to the PhD degree in engineering science.

Although the course is administered by the Department of Electrical Engineering, candidates for the PhD under the new program are not required to take the usual preliminary examination in electrical engineering. A special examination, fitted to their background and interests, is given instead. Courses are selected from relevant offerings of the University's Departments of Mathematics, Statistics, Industrial Engineering, Physics, and Electrical Engineering.

Information on admission procedure and degree requirements can be obtained by writing to the Graduate Office, College of Engineering, University of California, Berkeley 4, Calif. Information about research and teaching assistantships can be obtained from the E. E. Junior Faculty Appointments Officer in the University's Department of Electrical Engineering.

Discharge and plasma physics will be the theme of an Australian summer school to be held at the University of New England in Armidale, New South Wales, from January 24 to February 3. It will be co-sponsored by the University of Queensland and the University of New England. The staff of lecturers for the course will include twelve physicists from four Australian universities. In addition, R. G. Fowler of the University of Oklahoma and H. Maecker of the Technical University in Munich have been invited to appear as guest lecturers. The program will cover fundamental processes, electrical breakdown, plasmas, the glow discharge, the arc, shock phenomena, the spark, other plasma phenomena, and controlled thermonuclear research.

Inquiries should be addressed to the Department of Adult Education, University of New England, Armidale, N.S.W., Australia.

Films

The first two telefilms in a 12-part semitechnical series entitled "Understanding the Atom" are available for free loan or purchase from the Atomic Energy Commission. The new series is intended for science courses at the high-school or junior-college level and for instructional television.

The first two films, produced by the former New York University Television Production Center, under the technical direction of the AEC's Division of Isotopes Development, are subtitled "Alpha, Beta, and Gamma" and "Radiation and Matter". They run approximately 44 minutes each and cover some of the basic principles of radioactivity. The material is presented as a lecture-demonstration by Ralph T. Overman, chairman of the Special Training Division of the Oak Ridge Institute of Nuclear Studies.

The complete film series will include most of the information required for a background understanding of radiation and radioactivity, but will not be con-

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cerned with reactor physics or engineering. The 16-mm, black-and-white films will be made available for free loan through the AEC's domestic and overseas film libraries. All inquiries should be directed to the Audio-Visual Branch, Division of Public Information, US Atomic Energy Commission, Washington 25, D. C.

Research Grants

Carnegie Institute of Technology has received a one-year grant of $400 000 from the Advanced Research Projects Agency for the support of research in areas of information processing that include computer programming, languages, the theory of programming, artificial intelligence, the interpretation of natural languages, man-computer reaction, and the design of computing machines. In addition to providing partial support for senior research personnel, the grant will be used for six research assistantships for graduate students and postdoctoral fellows. A considerable portion of the funds will go towards the purchase of advanced equipment for use with Carnegie Tech's computer.

The University of Wisconsin has received a grant of $700 000 from the National Aeronautics and Space Administration for the establishment of an Institute of Theoretical Chemistry on the University's campus in Madison. The new facility, under the direction of Joseph O. Hirschfelder and Charles F. Curtiss, will undertake a broad program of research in theoretical chemistry with emphasis on molecular quantum and statistical mechanics, directed toward the determination of the physical and chemical properties of materials, the relation of these properties to the characteristics of individual molecules, and determination and structure of individual molecules. Initially, methods will be developed for obtaining satisfactory solutions to the molecular quantum-mechanical equations with the aid of high-speed computers. The solutions will then be applied to a wide variety of problems, including properties of gases and liquids, rates of chemical reactions, the structure of free radicals, ions, and excited species, and problems involving extremely high pressure and temperature.

The Institute will feature an extensive graduate and postdoctoral teaching program with a special PhD degree to be offered in theoretical chemistry. Suitable research assistantships and postdoctoral appointments are available to qualified individuals. All inquiries should be sent to Prof. Joseph O. Hirschfelder, Director, Theoretical Chemistry Institute, University of Wisconsin, 1112 West Johnson Street, Madison 6, Wisconsin.

The California Institute of Technology has been awarded a $94 000 grant by the Air Force Office of Scientific Research to establish a new professorship in geophysics. According to AFOSR, the grant was made