

applied science not only for the University but also for industry. It will permit also the training of many students in the techniques and applications of automatic computing. At the present time, computing systems are being ordered in increasing quantities for both scientific and commercial applications, and the machines are being built faster than people are being taught how to use them. There is thus great need for enlarged training facilities of the kind the Computing Laboratory can provide.

National Research Council of Canada

THE recently published forty-fourth annual report of the National Research Council of Canada outlines the scope of work carried out during 1960-61, including the provision of 7.1 million dollars to support pure research in the universities (including 775 grants, 550 scholarships and fellowships) and an additional 2.3 million dollars through the Medical Research Council (Pp. 48. N.R.C. 6322. Ottawa: Queen's Printer, 1961). The National Research Council employs 670 scientific research staff (including 130 postdoctorate fellows) and 953 personnel, and operates five laboratory divisions covering the fields of applied biology, applied chemistry, pure chemistry, applied physics and pure physics; and also controls the four engineering divisions, including building research, mechanical engineering, the National Aeronautical Establishment, and radio and electrical engineering as well as two regional laboratories, one at Halifax and the other in Saskatoon. During 1960-61 it sponsored thirty-six associate committees, operating in such diverse fields as the control of hospital infections, experimental psychology, plant breeding, radio science, and soil and snow mechanics; and dealt with 14,500 technical inquiries from Canadian industries. The outstanding event of the year was the establishment of the Medical Research Council as an autonomous body associated with the National Research Council. The report also includes the annual reports of the Medical Research Council and Canadian Patents and Development, Ltd.

The *Review of the National Research Council, Canada, for 1961* (Pp. 377. NRC. No. 6421. Ottawa: National Research Council, 1961. 75 cents), describes the work of the Council to March 31, 1961, and besides reports of the directors of divisions and heads of sections includes accounts of the work of the Council's committees and the first review of the work of the Medical Research Council, 1960-61. Lists of publications during the period are appended to the several reports of divisions, etc., and with the directory of staff and list of staff serving on outside organizations the *Review* is a comprehensive reference work on the two Research Councils, supplementing the information given in the annual report for the period and in the report on university support.

Safety in Mines Research

THE annual report of the Safety in Mines Research Establishment of the Ministry of Power for 1960 gives a concise yet easily readable account of the wide range of work undertaken by the Establishment (London: H.M.S.O. Pp. 72 + 4 plates. 5s. net). Within the main body of the report sections are devoted to explosives and blasting devices, explosion hazard, fire hazard, rescue apparatus, engineering and metallurgical research, dust measurement and the pneumoconiosis hazard, investigation of mining incidents, examination of equipment after mine service and testing services. Special attention is

being paid in the field of coal dust explosions to the use of stone-dust barriers and a full-scale explosion gallery is to be built at the Buxton laboratories. Most coal dust explosions underground are initiated by the ignition of firedamp; accordingly, the work on layering of firedamp and its accumulation has been extended together with an examination of preventive and remedial measures. At the same time research on the frictional ignition of gas, particularly between metals and rock, is in progress. Ignitions of gas due to shot-firing are very few compared with the tens of millions fired each year; but such ignitions are always serious; present work in this field is concerned with the safety of millisecond-delay firing and with improved methods of testing explosives. Much of the work described in the report will be of interest to many fields of industry other than the coal industry not only in connexion with explosion and fire hazards but also in connexion with breathing apparatus, engineering and metallurgical research, dust measurement and pneumoconiosis.

Wool Research Colloquia in Australia

A NEW series of one-day meetings has been inaugurated in Australia to discuss particular aspects of wool research. They are being organized by the Commonwealth Scientific and Industrial Research Organization Wool Research Laboratories, and invitations are extended to those research workers in university and C.S.I.R.O. laboratories who are working on the subject under consideration. Wool Research Colloquium No. 1, which was held at the Division of Protein Chemistry, C.S.I.R.O., Parkville, Victoria, on September 20, was convened by Dr. R. D. B. Fraser. Wool structure was considered at this meeting under the headings of molecular structure, chemical structure, biosynthesis and physical properties and structure. Wool research scientists from several States of the Commonwealth attended the meeting. Prof. H. Fraenkel-Conrat, of the Virus Laboratory, University of California, who had been in Melbourne as guest lecturer during a series of lectures in protein chemistry, and Mr. I. K. Walker, director of the Dominion Chemical Laboratory, Wellington, New Zealand, were guests at the Colloquium. These meetings will be a permanent feature and they are intended to provide specialist discussions on major aspects of the C.S.I.R.O. wool research programme.

Research and Education in Physics

AN international seminar for research and education in physics, co-sponsored by the International Atomic Energy Agency, the United Nations Educational, Scientific and Cultural Organization and the Central Committee for Swedish Technical Assistance, is to be held as a one-year course at the Institute of Physics, Uppsala, during September 1, 1962-July 1, 1963. The aim of the seminar is essentially to provide possibilities for individual participation in qualified experimental research work in one of various fields of physics (for example, solid-state physics, X-ray physics, nuclear physics, atomic physics, etc.) under the guidance of experienced scientists. An introductory course in the operation of, and the coding for, a modern computer, IBM 1620, will be given. The seminar will be open to non-European students and scientists, mainly from developing countries, who are working in the above-mentioned subjects and who are connected with the teaching and/or research of a university or national