Miscellany

Committees

Officials of both industry and the government have asked that the National Academy of Sciences—National Research Council establish within its framework a committee to concern itself with matters involving the common interests and relationships of industrial and governmental research, particularly in the area of applied research. Conferences between leaders from industry and government, called by the Academy—Research Council, recommended that a small committee be formed to explore the subject. The resulting NAS-NRC Government—Industry Research Committee, which has held its first meeting, has concluded that effective mechanisms already exist in many fields for furthering mutually helpful relations between government and industry research, but has agreed to "hold itself available as necessary to assist in exchanging views and ideas designed to improve such relations". When its services are requested, the Committee proposes to consider first the extent to which the need can be satisfied by existing mechanisms. If appropriate, the Committee will consider the designation of an ad hoc group of individuals active in the particular field concerned to assist in bringing about improved understanding and closer relations between government and industry people in that field.

The Committee has the following membership: Edgar C. Bain, United States Steel Corporation, Chairman; Allen V. Astin, National Bureau of Standards; D. P. Barnard, Deputy Assistant Secretary of Defense, Research and Development; Ralph Bown, Bell Telephone Laboratories, Inc.; Ralph Connor, Rohm and Haas Company; Hugh L. Dryden, National Advisory Committee for Aeronautics; Paul D. Foote, Gulf Research and Development Company; G. E. Hilbert, Agricultural Research Service, U. S. Department of Agriculture; Randolph Major, Merck and Company, Inc.; Roy C. Newton, Swift and Company; and Alan T. Waterman, National Science Foundation.

The American Society of Mechanical Engineers has established a Nuclear Engineering Committee to coordinate its activities in "those areas of mechanical engineering in which a knowledge of nuclear physics is essential". Such areas include shielding, fuels and fuel fabrication, radiation effects, and nuclear power plant operation. The new committee, which is distinct from ASME's Nuclear Energy Application Committee, a policy group, may lead to the formation of another permanent professional division of the Society. ASME now has twenty-one such divisions. The immediate functions of the new committee are to plan for the participation of ASME in a nuclear engineering conference scheduled for next summer and to study ASME's long-range needs in this field. Albert C. Pasini of the Detroit Edison Company has been named chairman.

Grants and Fellowships

The latest series of National Science Foundation grants for the support of basic scientific research has been made public, with a total of $2.65 million earmarked for 216 projects. Included in this sum is a special appropriation of $100 000 for the work of the U. S. National Committee for the International Geophysical Year 1957–58. The awards in physics were the following: J. R. Pellam (California Institute of Technology), cryogenic research; S. A. Friedberg (Carnegie Institute of Technology), investigations in low-temperature physics; J. E. Miller (Clemson Agricultural College), a study of sulfur; H. A. Boorse (Columbia University), research in low-temperature physics; L. Brillouin (Columbia University), physics and information theory; P. Kusch (Columbia University), energy levels and hyperfine structure of helium three and four; H. Sponer (Duke University), electronic structure of molecules; L. D. Wyly (Georgia Institute of Technology), angular correlations between nuclear radiations; J. S. Koehler and F. Seitz (University of Illinois), plastic deformation; R. Maurer (University of Illinois), low-temperature research on polar crystals; K. A. Brueckner (Indiana University), theory and interpretation of elementary particles; G. H. Dieke (Johns Hopkins University), spectroscopy of rare earths at low temperatures; L. W. Seagondollar (University of Kansas), nuclear reactions with 3 Mev protons; G. C. Krueger (University of Maine), phase contrast analysis of nonhomogeneous transient phenomena; B. B. Rossi (Massachusetts Institute of Technology), cosmic-ray research; C. Dean and G. A. Jeffrey (University of Pittsburgh), nuclear quadrupole coupling and x-ray diffraction data; C. F. Squire (Rice Institute), studies in solid-state physics; J. W. Keuffel (University of Utah), a scintillation counter study of unstable cosmic-ray particles; A. S. Skapski (University of Vermont and State Agricultural College), the influence of thickness on the melting point of thin lamellae; K. M. Watson (University of Wisconsin), high-energy nuclear reactions; and C. T. Lane (Yale University), low-temperature physics. The individual grants are for periods ranging up to three years.

In addition, the Foundation has made funds available for the support of the NAS-NRC Committee on Nuclear Sciences, the 3rd Berkeley Symposium on Mathematical Statistics and Probability, a conference on radiocarbon dating in archeology, a conference on molecular quantum mechanics at the University of Texas, a survey of the mathematical foundations of quantum mechanics to be carried out at the Institute for Advanced Study at Princeton, a survey on doctoral

degrees in science to be conducted by the National Academy of Sciences, and numerous other enterprises in a variety of scientific fields.

The University of Chicago has announced that it will offer three $4000 postdoctoral fellowships in statistics for 1955–56. The purpose of the fellowships, which are open to holders of the doctor's degree or its equivalent in research accomplishment, is to acquaint established research workers in the biological, physical, and social sciences with the role of modern statistical analysis in the planning of experiments and other investigative programs, and in the analysis of empirical data. The fellowships, offered for the fifth year under a five-year program supported by The Rockefeller Foundation, are intended for scientists whose primary interests are in substantive fields rather than in statistics itself. The closing date for applications is February 15, 1955; instructions for applying may be obtained from the Committee on Statistics, University of Chicago, Chicago 37, Illinois.

Forty-seven grants totalling $124 000 have been made recently by the nonprofit foundation, Research Corporation, for the support of research in the physical sciences and mathematics. Among the various grants were the following: K. A. Strand (Northwestern University), research in double-star astronomy; M. J. Arvin (Southern Illinois University), electrical effects at the surface of semiconductors; S. MacLane (University of Chicago), program in pure mathematics; P. B. Pickar (Loyola University), low-temperature studies on the electrical properties of semiconductors lead telluride, lead selenide, cadmium selenide, and titanium dioxide; J. Nicol (Amherst College), development of the method of cooling by cascade adiabatic demagnetization and application of the method to an investigation of the magneto-thermal properties of substances below 0.1°K; W. R. French, Jr. (Nebraska Wesleyan University), atmospheric effects on the ground level cosmic-ray intensity; R. R. Brown (University of New Mexico), time variations of cosmic radiation; W. M. Fairbank (Duke University), the use of microwave oscillators stabilized by superconducting cavities to measure the critical velocity of superfluid flow in helium II; E. A. Whalin, Jr. (University of North Dakota), pi-minus/pi-plus ratio from deuterium near the photomeson threshold; E. L. Pace (Western Reserve University), calorimetric investigations of the heat capacity between 1 and 20°K; J. H. Karle (Lewis and Clark College), astronomical photoelectric photometry; E. A. Mason (Pennsylvania State University), measurement of thermal diffusion in gases by means of radioactive tracers; and R. F. Wilson (Texas Southern University), spectrophotometric and polarographic study of certain rare earth elements.

Fifteen predoctoral fellowships are being offered by Michigan State College for the academic year 1955–56, all of them accompanied by a waiver of tuition fees. Ten of the fellowships are sponsored by the Graduate Council and carry a stipend of $700; the remainder,

sponsored by the Alumni Fund, range in value from $1000 to $1400. In addition, a postdoctoral fellowship, open only to U. S. citizens and worth $3000, is offered for research in any field for which the College has appropriate facilities. Information may be obtained from the Dean of the School of Graduate Studies, Michigan State College, East Lansing, Michigan.

A detailed final report on the AEC fellowship programs in the physical and biological sciences, which provided support for 920 pre- and postdoctoral fellows from 1948 to 1953, has been published by the Oak Ridge Institute of Nuclear Studies. The AEC program was terminated following establishment of the National Science Foundation fellowship program in the sciences. Copies of the report may be obtained by offices or officials concerned with the administration of fellowship programs from the University Relations Division, Oak Ridge Institute of Nuclear Studies, P. O. Box 117, Oak Ridge, Tennessee.

Education

The Selective Service System has announced the signing of a Presidential Order raising the criteria for the deferment of students entering graduate schools after January 1, 1955, to standing within the highest quarter of the senior class or attainment of a minimum score of 80 in the Qualification Test. According to the Bulletin of the American Council on Education, the action was taken without prior consultation with the Council's Committee on Relationships of Higher Education to the Federal Government, a procedure usually followed in the past.

Selective Service Director Lewis B. Hershey, in an amended operations bulletin issued on September 28th, notified local boards that a "continuing flow of highly qualified and well trained men is needed by the Armed Forces and by essential defense supporting activities" and that careful consideration should therefore be given to "the deferment of sufficient numbers of qualified graduate students to assure an adequate supply of such personnel". When a local board is considering the case of a registrant previously deferred for graduate study, the directive continued, it should weigh carefully the advisability of permitting him to complete the work for his graduate degree, provided he is making satisfactory progress and will attain the master's degree in not more than two calendar years or the doctoral degree in not more than five calendar years of graduate study beyond the bachelor's degree.

The physics department of Florida State University at Tallahassee is now offering work leading to a PhD degree in physics, according to Guenter Schwarz, chairman of the department, who may be contacted for further information.

Laboratories

The irradiation facilities of Argonne National Laboratory, which include the experimental breeder reactor in Idaho, as well as the CP-5 heavy water research reactor and the 60-inch cyclotron at Argonne, have been made available to educational, research, and industrial organizations which can obtain AEC authorization for their projects. Argonne's services supplement those of Oak Ridge in the sense that special objects or substances can be irradiated and that isotopes with short half-lives or high specific activities can be supplied to Midwestern institutions more conveniently from Argonne. Charges for the reactor irradiations range upward from $15 per week, and for the cyclotron irradiations from $50 per hour. Further information can be obtained from Argonne National Laboratory, Special Materials Division, P. O. Box 299, Lemont, Illinois.

An isotope laboratory is to be constructed at the General Motors Technical Center north of Detroit to provide the wherewithal for radioisotope studies to be undertaken by the GM Research Laboratories. A General Motors spokesman said he believed that when the new laboratory is completed it will be one of the largest privately owned industrial isotope facilities in the United States. Plans for the proposed installation resulted from design conferences with the AEC's Isotope Division at Oak Ridge.

Formal dedication of the new International Business Machine Corporation research laboratory took place in Poughkeepsie, N. Y., on October 9th. The building adds 179 000 square feet to IBM's existing laboratory floor space, contains 155 laboratories and offices, and is intended to accommodate some 600 engineers and researchers. One wing of the laboratory is used for basic research projects and the other for applied research. Technical meetings and demonstrations are to be held in an acoustically designed auditorium where "voices at conversation level can be heard without echo in all parts of the room".

Publications

Protection requirements for operating personnel and others against the potential hazards of electron accelerators of the betatron and synchrotron types have been outlined in a 52-page NBS handbook containing the recommendations of the National Committee on Radiation Protection. Hazards resulting from the various radiations produced by the sources are included, as well as those from certain associated effects, such as noise and electricity. Recommendations are also given on a consistent system of units and measurement procedures that can be applied to radiations with energies above 5 Mev. The publication, issued as National Bureau of Standards Handbook 55 under the title, *Protection Against Betatron-Synchrotron Radiations up to 100 Mev*, can be obtained for 25 cents from the Government Printing Office, Washington 25, D. C.

Numerous high-altitude research stations exist throughout the world, but few of them are widely known. The lack of adequate information has delayed the efficient utilization of expensive and perhaps unique