



Frank E. Verbrugge (left), Carleton College, demonstrates his prize-winning magnetic resonance model at the exhibit of teaching devices during the State University of Iowa's 14th annual Colloquium of College Physicists, held June 11-14 in conjunction with the 1952 summer meeting of the American Association of Physics Teachers. Watching the demonstration are (left to right) Father J. V. Bonet, St. Louis University; Wendell Plum, Manchester College, Indiana; and Robert L. Henry, Carleton College.

particular devices and methods used as on the relative importance of demonstrations and laboratory exercises and on the advantages and disadvantages of qualitative and quantitative demonstrations. No general agreement was reached on the latter question, but there was a consensus of opinion that the demonstration lecture and the laboratory should be supplementary, with as much student participation as possible in the demonstrations.

So many excellent teaching devices were included in the exhibit, which is an annual feature of the colloquium, that only a few can be described in a report of this sort. Twenty-five "experimental" and six "non-experimental" devices were submitted. Prizes in both classes were awarded on the basis of ballots cast by those attending the meeting. In the experimental class the first prize of \$40 was awarded to Frank Verbrugge, of Carleton College, for his dynamic model of magnetic resonance phenomena. This model consisted of an air-jet-driven magnetized top, spinning in crossed dc and ac magnetic fields. The Larmor precession, and its dependence on the magnetic flux density, are apparent in the model, and magnetic resonance may be shown with "radio frequencies" of the order of half a cycle per second. The \$50 prize in the nonexperimental class was divided between P. J. Haigh of the University of Illinois for his apparatus for demonstrating the interaction of free electrons with the atoms of a metal, and I. Walerstein of Purdue University for his lecture table model of Rutherford and Thomson scattering. Considerable amusement was offered by two exhibits not entered in the competition, one an early magnetic detector for radio reception, shown by Otis B. Young of Southern Illinois University; the other a

mechanical Nim player, constructed by P. W. Williams, of South Dakota State College. The efforts of the attenders to identify the first device and to beat the second were, in general, marked by equal lacks of success.

On Friday morning, invited lectures were given by W. L. Whitson on operations research; by H. K. Schilling on edge tones and whistles; and by H. G. Hershey on geophysical exploration. These presentations served as introductions to specialized fields with each of which only a small portion of the audience had had previous experience.

The climax of the meeting was supplied by four lectures, sponsored by the Research Corporation and given by George Uhlenbeck. In the first two of these, under the title of "The So-called Elementary Particles", the speaker outlined in a brief, yet thorough, manner the experimental evidence which has led to our present knowledge of the properties of mu-, pi-, kappa-, and tau-mesons, as well as the more recently discovered heavy V-particles. He then departed from the relatively solid ground of experimental physics into the speculations involved in some of the proposals put forward by Wigner, Pais, and others as to the relations among this multitude of elementary particles. The second set of lectures, entitled "Some Famous Unsolved Problems in Statistical Physics", was devoted to the experimental and theoretical progress made in recent years on the nature of turbulent flow.

Arrangements for the meeting, including housing in the new Hillcrest Dormitory and a dinner and a luncheon in the River Room of the Iowa Memorial Union, were uniformly successful. While a formal vote of thanks to the University and to Professor Stewart was expressed at the final session, probably a greater tribute to the excellence of the arrangements and program was paid by the almost unanimous attendance at every session, in spite of temperatures which hovered in the upper nineties most of the time.

Walter C. Michels
Bryn Mawr College

AAPT, Oregon Section

A New Science Building Dedicated

Formal dedication of the University of Oregon's new science building coincided in late April with the sixtieth meeting of the Oregon Section of the American Association of Physics Teachers. The principal address of the dedication ceremonies was delivered by Alan T. Waterman, director of the National Science Foundation, who spoke on the principal phases of the Foundation's work. The program of the AAPT meeting consisted of a session of contributed papers and several invited addresses, including a review of nuclear physics research by S. K. Allison of the University of Chicago. Drs. Allison and Waterman, together with G. W. Beadle, Donald Stother, Clarence Diebel, P. J. Van Rysseberghe, and E. G. Ebbighausen, also joined in a panel discussion on the subject of education in science.

During the Section's business meeting the following officers for 1952-53 were elected: president, Robert L. Purbrick of Willamette University; secretary, Kenneth E. Davis of Reed College; historian, B. Godfrey Vassallo of the University of Portland; AAPT Council Member, Will V. Norris of the University of Oregon.

Arid Zone Symposium

Underground Water Problems Surveyed

An arid zone symposium, organized jointly by Unesco and Turkey, was held at Ankara in May of this year to consider the problem of underground water in the arid and semi-arid regions of the world, including such topics as physical and chemical properties and the statics and dynamics of underground water, hydrological balance, and the relationship between the hydrology of underground water and other sciences. Twenty-five experts from fourteen countries attended. Unesco's interest in the arid zone program arises from that part of the program of the Natural Sciences Department which is concerned with the improvement of the living conditions of mankind.

Combustion

International Symposium at MIT

The 1952 International Symposium on Combustion will be held at the Massachusetts Institute of Technology from September 1 to 5. Some one hundred papers will be presented by scientists from research laboratories and educational institutions in Great Britain, France, Holland, Belgium, Germany, Japan, and the United States. In the program of contributed papers, emphasis will be placed on the physical aspects of combustion, particularly wave phenomena and turbulence, treated from both experimental and theoretical standpoints. Plans have also been made for several survey papers and round-table discussions on special topics. Further information can be obtained from the Combustion Symposium Committee, Massachusetts Institute of Technology, Cambridge 39, Massachusetts.

Atomic Energy in Industry

Seventh National Chemical Exposition

Plans are nearly complete for the exhibit on atomic energy in industry which will be part of the Seventh National Chemical Exposition in the Chicago Coliseum from September 9 to 13. The exhibit, to be staged under the sponsorship of the Chicago section of the American Chemical Society in co-operation with the Atomic Energy Commission, will be tied in with papers by leaders in the field discussing various aspects of atomic energy in industry. The papers will cover such topics as the production, availability, and cost of fission products; the design of tracer experiments; a survey of industrial applications with a series of case histories; and a presentation of the political, economic, and sociological aspects of the subject. The central unit

of the exhibit will be a new working model of an atomic pile in which non-radioactive material can be irradiated. Also to be shown will be a model of a complete atomic power plant to utilize the heat from the reactor and a model isotope separator.

Radar Meteorology

Canadian Conference in September

McGill University will be host to the Third Annual Radar Weather Conference to be held in Montreal, Canada, September 15-17, 1952. The conference will follow the pattern of the previous two in providing symposia on radar meteorology and related studies, and informal discussions of recent advances. Scientists who would like to attend or participate should communicate with the Committee for 1952 Radar Weather Conference, McGill University, Montreal 2, Canada.

Physics of Solids

A Jointly-Sponsored Symposium

A symposium on the structure and properties of solid surfaces will take place at Lake Geneva, Wisconsin from September 29 to October 1. Sponsored by the National Research Council with support by the U. S. Air Force and the International Union of Pure and Applied Physics, the symposium program will deal with the following topics: structure of crystal surfaces; surface free energy, entropy, and tension; atomic mobility and reaction on surfaces; crystal growth from vapor, melt, and solution; electrical properties of surfaces of metals, semiconductors, and insulators; surfaces of noncrystalline solids, particularly glasses; cohesion and friction; influence of surface on deformation of crystals. Sessions are closed, speakers and discussers being invited. The secretary is Cyril S. Smith, Institute for the Study of Metals, Chicago 37, Illinois.

Diffraction

10th Annual Conference in Pittsburgh

The tenth annual Pittsburgh Diffraction Conference will be held at the Mellon Institute of Industrial Research, Pittsburgh, on November 6 and 7. The conference will include a symposium of invited papers in the field of order-disorder studies and technical sessions which are now being arranged on instrumentation and methods, neutron diffraction, and general diffraction studies. Contributed papers on these and related subjects will be considered in the order in which they are received. Titles should be submitted to the program chairman, Mr. R. K. Scott, Hall Laboratories Inc., Box 1346, Pittsburgh 30, Pennsylvania before September 1. For further information, and for a copy of the preliminary program when available, write to Mr. E. E. Wicker, U. S. Steel Company, Research and Development Laboratory, 234 Atwood Street, Pittsburgh 13, Pennsylvania.