Meetings

APS–AAPT Meeting in New York

Record Attendance at Joint Gathering

Annual Meetings of the American Physical Society and the American Association of Physics Teachers have for a number of years been held together in New York City, but the attendance at sessions scheduled from Thursday, January 31, through Saturday, February 2, 1952 reached an all-time high. The total registration of 2215 marked an increase over last year's meeting, which had itself broken previous records. The lower hallway of Columbia University's Pupin Laboratory, where the registration desk was located, was jammed to capacity during most of the meeting, and from all indications it appears that an appreciable number of those attending did not actually register.

In terms of the quantity of papers presented, the Physical Society program was about equal to that of the 1951 Winter Meeting, the total number of contributed and invited papers in each instance being in the neighborhood of 320. Less than half of the twenty-four sessions of contributed papers dealt with non-nuclear subjects; and while this weighting was reversed in the case of the symposium addresses and other invited papers, more than one-third had to do with nuclear physics. In discussing the situation in his introduction to the Society's *Bulletin* for this year's meeting, APS Secretary K. K. Darrow observed that ". . . the magnitude of the New York Meeting has reached what sometimes is called a 'plateau'. This is a circumstance to be viewed with mixed emotions," he continued. "We are almost at the limit of the capacity of Columbia University to house our sessions, and yet the reason why we have not reached the limit is one to cause concern. The fact is that the number of contributed papers in electron-physics and solid-state physics has been declining at about the same rate as the number of contributed papers in nuclear physics is mounting. The decline is due to the diversion of such papers into Divisional and other meetings. Thus the Annual Meeting is coming to be dominated by nuclear physics, and its generality is in danger of being lost. An endeavor to counteract this trend has been made by arranging for surveys of recent conferences in electron physics and in other fields. Contingent on availability of rooms, an endeavor will be made next year to provide survey papers in solid-state physics. We must not give up the effort to make the general meetings of the Society truly general."

The Society's Division of Electron Physics held a special symposium during this year's meeting. M. A. Biondi of the Westinghouse Research Laboratories reported on ionization and recombination processes in the afterglow; P. Kusch of Columbia University spoke on the magnetic moment of the electron; and S. A. Korff of New York University reviewed recent developments in the physics of counters. In another electron physics session, W. P. Allis of MIT and L. Marton of the National Bureau of Standards reported respectively on the Conference on Gaseous Electronics held at the GE Research Laboratory last October and on the Electron Physics Meeting at the National Bureau of Standards in early November. (Abbreviated accounts of both meetings may be found in the February 1952 issue of *Physics Today*.) R. N. Hall of GE presented a paper on surface and volume recombination in germanium during the same session, while an earlier part of the program included a paper by H. Feshbach of MIT on the scattering of fast electrons by nuclei.

Invited papers of the Division of Fluid Dynamics included: A Mixing Theory for Dissipative Flows with Increasing Pressure in the Flow Direction, by L. Crocco and L. Lees of Princeton; Application of Linearized Characteristic Systems to Supersonic Non-Linear Problems, by A. Ferri of the Polytechnic Institute of Brooklyn; and Flows in the Vicinity of Mach-Number One, by G. Guderley of the Wright-Patterson Air Force Base.

Among the invited papers in nuclear physics was a report by K. T. Bainbridge on recent experimental work which he has done at the Brookhaven National Laboratory, while on leave from Harvard University, on the effects of chemical combination and of pressure on the lifetime of a nucleus. Other nuclear physicists who presented invited papers during the meeting included: V. F. Weisskopf of MIT (Nuclear Shell Theory); R. E. Peierls of the University of Manchester (Nonlocal Field Theories); J. Steinberger and A. Sachs of Columbia University (The Nuclear Interactions of Pions of Energy near 70 Mev); W. W. Havens, also of Columbia (Production of Charged Pions by Protons); T. W. Bonner of Rice Institute (Disintegrations Produced by Monoenergetic 14-Mev Neutrons); W. W. Buechner of MIT (Magnetic-Analysis Studies of Nuclear Energy-Levels); E. P. George of Birbeck College, University of London (Cosmic Rays Underground); D. J. Hughes of Brookhaven (Measurement of the Neutron-Electron Interaction by Mirror Reflection); J. H. Van Vleck of Harvard (Significance of Microwave Spectroscopy for the Theory of Magnetism); and Stanley Geschwind of Columbia (The Determination of Nuclear Masses from Microwave Spectra). Six papers in other regions of physics completed the program of invited addresses: R. W. G. Wyckoff of National Institutes of Health (Big Molecules in Biological Systems); J. W. Beams of the University of Virginia (Some Recent Experiments with High Centrifugal Fields); Walker Bleakney of Princeton University (Shock Waves and Their Interactions); H. I. Ewen of Harvard University (1420-Mc Radiation from Interstellar Hydrogen); Ralph Liv-

ingston of Oak Ridge National Laboratory (Pure Quadrupole Spectra of Solid Chlorine Compounds); and G. K. Woodgate of Columbia University (Optical Hyperfine Structure by Techniques of Atomic Beams).

The tenth Richtmyer Memorial Lecture, given this year during the joint ceremonial sessions of the APS and the AAPT by Enrico Fermi of the University of Chicago, followed the predominant pattern of the meeting in being an account of the past year's work at Chicago in investigating the medium energy range of the physics of elementary particles with the help of the University's recently completed 450 Mev cyclotron. The spectroscopy of light nuclei (comprising from five to twenty particles) was reviewed by C. C. Lauritsen of the California Institute of Technology in his retiring presidential address.

A. A. Knowlton, professor of physics (retired) at Reed College in Portland, Oregon, was honored by the American Association of Physics Teachers during the joint ceremonial sessions by the presentation of the Association's Oersted Medal. Professor Knowlton, a past president of the AAPT (1941), responded with an address on the subject of opportunities and rewards in physics teaching, in which he stressed the continuing importance of the role played by small college physics departments in training physicists.

The program of the AAPT included a session of ten contributed papers prefaced by a pair of invited addresses given respectively by J. J. Heilemann of Ursinus College (Demonstration of Short Film-Loops) and by C. P. Keim of the Oak Ridge National Laboratory (University Laboratories Utilize Enriched Stable Isotopes). The Oak Ridge Institute of Nuclear Studies presented a four-paper symposium presided over by L. A. Pardue of Virginia Polytechnic Institute, chairman of the Institute's council. A. H. Snell, director of the ORNL physics division, discussed nuclear reactors as research instruments; T. W. Bonner of Rice Institute spoke on research with Van de Graaff accelerators; A. M. Weinberg, research director at Oak Ridge, reviewed the theory of reactors in terms of its potential usefulness for physics teachers as a striking example of the application of mathematical methods in solving physical problems; and W. G. Pollard, executive director of the Institute, discussed the significance of Bohr's principle of complementarity for investigators in the life sciences. Another major symposium on the AAPT program was devoted to the subject of methodology in the teaching of physics, and featured addresses by Eric M. Rogers of Princeton and by Gerald J. Holton and James B. Conant of Harvard. Most of the AAPT sessions were held at Barnard College, across the street from Columbia, in the Brinckerhoff Theater.

The banquet of the APS and the AAPT was held Friday evening in the Grand Ballroom of the Hotel New Yorker under the joint chairmanship of the retiring presidents of the two organizations, Professors Lauritsen and Zemansky. Oliver E. Buckley, chairman of the board of Bell Telephone Laboratories and chairman as well of the Science Advisory Committee of the Office of Defense Mobilization, was one of the two after-dinner speakers who had been invited for the occasion. Dr. Buckley confined his remarks primarily to a description of the relationship of the Advisory Committee with the agencies of the government which it is designed to serve. Pointing out that the Committee has no authority to direct other agencies with respect to their handling of scientific matters, but can only offer what it considers to be worthwhile advice, Dr. Buckley characterized himself as "the most powerless man in Washington," a condition, he said, that permits him to visit any office in Washington and to be received cordially "because everyone knows I don't have any power". Nevertheless, he made clear, close contact with government offices is felt to be very important and a large part of the Advisory Committee's work to date has involved offering to the various agencies an expert consulting service on scientific matters. Dr. Buckley stressed the present need for qualified physicists who are willing to give some of their time to government service. Not only the government would gain if more physicists were to accept responsible positions in government, he observed, for both the individual and the institution from which he comes could benefit from the closer appreciation of the functioning of government that would result from such service.

The second banquet speaker was R. E. Peierls, professor of physics at the University of Birmingham and Fellow of the Royal Society, who spoke on the present status of physicists in England (rather than on British *physics*, he remarked, for physics remains the same anywhere). Professor Peierls, who played an important role in the histories of both the British and the American atomic energy projects and who served as a leading member of the British scientific mission to the United States during World War II, provided a concise description of the working environment of British physicists. An acute shortage of laboratory space for experimental work, together with a shortage of materials, he said, has to some extent limited research, but temporary laboratory facilities have been developed to meet most immediate needs, and physicists generally have concentrated upon making the fullest possible use of existing equipment. Considerable emphasis has been placed upon the need for constructing large high-voltage machines in England, most of the parts for which have been made in local workshops rather than having been imported from the United States. Although some congestion in laboratory research was experienced after the war, Professor Peierls said, the situation is now becoming stabilized, and while there is a widespread lack of physicists in the country the problem at this point is most critical in the high schools where a severe shortage of physicists exists.

Support for physics is not a serious problem in Great Britain, Professor Peierls indicated, since the government supplies adequate funds to a committee on academic research grants which is responsible for determining where and how they should be spent. Good arrangements are thus made for supporting students from

public funds although the recipient is often restricted to studying at a single university by the fund-granting committee. No secret projects are carried out in the universities, Professor Peierls stated, although individual scientists often serve as consultants to government projects. The present policy of the universities of not accepting contracts for secret research, he said, is based on a belief that the long-term aspects of physics research should be stressed in university laboratories —an attitude which is shared by the government.

New York Meeting of FAS

Re-examination of Atomic Control Urged

A conference of the council of the Federation of American Scientists took place at Columbia University on February 2nd, the final day of the annual meeting of the Physical Society. During the Federation's six years of existence it has maintained a clear-cut and consistent attitude regarding the absolute need for some workable means of controlling atomic energy developments under a responsible international authority. In spite of the repeated failures of the nations involved to come to any agreement on the subject, the FAS has held to the position that since international control is both a necessary and possible alternative to an atomic armaments race, it should be the responsibility of the United States to demonstrate beyond question the sincere desire of Americans that the threat of atomic warfare be reduced. In the present situation, the FAS has suggested, this can best be accomplished by making certain that the official attitude of the United States in further international discussions will be as open and flexible as possible, with the way left clear for consideration of alternative proposals so that no opportunities for genuine negotiation will be lost.

With these thoughts in mind, the FAS council directed the officers of the Federation to make every effort to encourage the re-examination of proposals for the international control of atomic energy which have been advanced by the United States. This review should be carried on at the highest possible level, the FAS feels, and preferably within the federal government, but it was suggested that if necessary the job might be done instead by "a group of eminent private citizens willing to devote considerable time to quiet, concentrated study of the problems involved".

The council also unanimously approved a resolution stating that "in the pressing national interest, the Internal Security Act of 1950 be modified to reduce the restrictions on the freedom of international travel, which have especially affected the interchange of scientists between our country and others".

Considerable discussion during the meeting was devoted to the effects of the McCarran Act on international travel by scientists. V. F. Weisskopf summarized the work of the Federation's committee on passport and visa problems, which has had the task of assembling and analyzing data on cases concerning scientists who have experienced difficulty in obtaining visas. Professor Weisskopf, who spent most of last year in Europe as a visiting lecturer in physics (see the December 1951 issue of *Physics Today*), pointed out that among those whose applications for U. S. visas had been rejected or unaccountably delayed were many foreign scientists who enjoyed unblemished reputations in their own countries. The consequences of the present visa policy of the United States, he indicated, have been sudden and all but catastrophic for American foreign scientific relations.

The Federation is currently in the midst of a drive to increase the number of its members, the total membership now being somewhat less than one thousand. The organization has managed to remain active throughout its six years, and in spite of several severe crises has been able to maintain its office in Washington and to distribute its monthly *Newsletter*. Prospects for 1952, however, are reported to be materially better than had been expected. Information concerning the Federation of American Scientists, together with membership application blanks, may be secured by writing to its office at 1749 L Street, N.W., Washington 6, D. C.

Mexican Physical Society

To Meet this Month in Querètaro

The Mexican Society of Physics has announced that its first Local Convention is to be held from April 22nd to 26th in Querètaro. Founded in Mexico City in the summer of 1950, the Society is reported to be rapidly increasing in size after having started with an initial membership of 164. Carlos Graef Fernandez of the University of Mexico is president of the Society, and Manuel Sandoval Vallarta, of the Comision Impulsora y Coordinadora de la Investigacion Cientifica, heads the ten-member Consejo Consultivo. Fernando Alba Andrade is vice president, and Salvador Mosqueira R. is secretary general.

APS Spring Meeting

To be Held in Washington Next Month

For the last three or four years it has seemed as though there were a ceiling of three hundred contributed papers, which the New York and Washington meetings of the American Physical Society would regularly approach but would not pierce. The ceiling will be pierced, or probably we should say it will be raised, at the 1952 Washington meeting—May 1, 2, and 3. Three hundred and thirty-five is the number of ten-minute papers whose abstracts pack the forthcoming issue of the *Bulletin*. They could scarcely have been accommodated, and certainly not with ease, but for the availability of the National Bureau of Standards and the two Washington hotels (the Shoreham and the Wardman Park). This highly desirable scheme, introduced last year by the Washington Local Committee, will be practicable again this year. The range of the topics of the ten-minute papers may be succinctly defined by saying that it is conterminous with physics, apart from