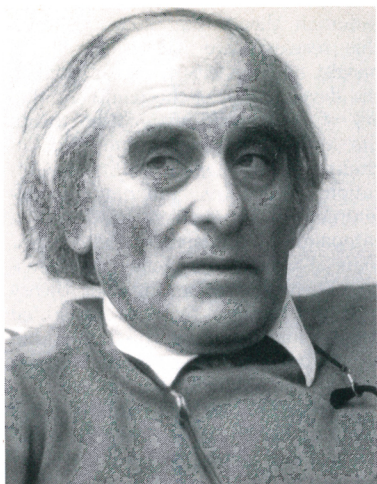


WE HEAR THAT



G. P. S. Occhialini

rected his attention to its potential in particle (then cosmic ray) physics. It needs to be pointed out that the emulsions then used in nuclear physics, the only ones commercially available, lacked some of the properties required for this task. They were too thin and were insensitive to minimum ionizing particles. In collaboration with Ilford Ltd and Kodak, the Bristol group introduced thick, highly sensitive emulsions. Occhialini played a key role in these technical developments.

Shortly after this, the Rome group (Marcello Conversi, Ettore Pancini and Oreste Piccioni) discovered that the negative cosmic "mesotron" (now called the muon) did not have the properties expected of the strongly interacting Yukawa meson (now called the pion). Occhialini, Powell and their young associates Cesare Lattes and Hugh Muirhead observed the π - μ decay directly. Subsequently, the Bristol group could also observe the decay of the muon into an electron plus neutrals—this required thick, electron-sensitive emulsions. Many other discoveries by the emulsion technique followed, in Bristol and in other laboratories all over the world. Powell and Occhialini (in that order) coauthored a remarkable atlas *Nuclear Physics in Photographs*, and in 1950 Powell received the Nobel Prize "for the development of the photographic method for studying nuclear processes." This was the second time that Occhialini went unrewarded.

In 1948 Occhialini went to the Free University of Brussels, in 1950 to Genoa and in 1952 to Milan, where he worked until the end of his academic life. It was in Milan that his group discovered the Σ^+ hyperon. As emulsions were superseded by other techniques, Occhialini directed his in-

terest to space physics. Working in that field, he spent 1960 as a visiting professor at MIT. After his return to Europe, he played an important part in the development of the European Space Research Organization, which later became the European Space Agency.

Occhialini was fortunate to be active as an experimental physicist during an epoch when strong individualism was not only tolerated but often considered a virtue. While not a gifted classroom teacher, he had an enormous impact on his students as a role model. He remains unforgettable to all those who had the good fortune of associating with him.

The origin of his initials, G. P. S., supplies an amusing example of Occhialini's unorthodox approach. At the beginning of his career, he styled himself, like most Italians, with a single first name: Giuseppe. Upon visiting England, he opted for multiple initials. He explained that he added "P" for Peppino (a nickname for Giuseppe) and "S" for Sommerfeld, a pseudonym under which he had run as a sprinter in his student days (during an exam period). In actual fact, the *Biographical Encyclopedia of Scientists* lists, in addition to Giuseppe, the names Paolo and Stanislaw.

VALENTINE L. TELEGI
CERN
Geneva, Switzerland

Robert DeWitt Huntoon

Robert Huntoon died of congestive heart failure on 21 November 1992. He was born in Waterloo, Iowa, on 20 July 1909, and he received his BA in mathematics from the Iowa State Teachers College in 1932 and his MA (1935) and PhD (1938) in nuclear physics from the State University of Iowa.

He spent the next two years as an instructor in physics at New York University, then a year as a research physicist in physical electronics at Sylvania Electric Products Corporation in Emporium, Pennsylvania. In 1941 he joined the National Bureau of Standards and, under Harry Diamond, participated in the development of radio proximity fuzes for many weapons needed by the armed services.

Appointed chief of the NBS electronics section in 1946, he directed fundamental research on electronic circuits, control devices and other electronic ordnance components. In 1948 he became the chief of the atomic and radiation physics division. During this period he also served as

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Robert DeWitt Huntoon

coordinator of Atomic Energy Commission projects at NBS.

From 1951–53, Huntoon served as director of the NBS Corona laboratories in California, overseeing a military research and development program that included guided missiles, infrared measurement and electronic ordnance devices. He then returned to NBS in Washington, DC. In 1958 he was appointed the first deputy director, essentially supervising the internal operations of NBS. In 1963 he became the deputy director for basic standards and services, including the Standard Reference Data program. The following year, when NBS was reorganized into specialized institutes, he became director of the Institute for Basic Standards. In 1967 he was appointed the first chief of the Office of Program Development and Evaluation, serving in this capacity until his retirement the following year.

The positions Huntoon held at NBS indicate his extraordinary range of interests and competence in science and technology, covering atomic beams, experimental nuclear physics, secondary emission phenomena, microwave measurements, electronic ordnance devices, atomic physics, guided missiles, computers and fundamental physical constants.

With Ugo Fano in 1950 Huntoon directed attention to the possibility and desirability of adopting a complete set of atomic standards of physical measurement, replacing the established arbitrary standards.

His most notable achievement was formulating the concept of a national measurement system for modern science and trade. He used a systems approach to improve understanding of the nation's measurement activities and of the vital importance of NBS at the apex of the pyramid, setting the primary standards of measurements.

These were then the bases for the network of measurements by industry and commerce. His concept led the White House Office of Science and Technology to establish in 1963 the National Standard Reference Data System, with NBS assigned the responsibility for its administration and coordination. In his active retirement these ideas continued to grow, and he introduced them to the leaders of many other countries, where he bonded technical understanding with personal friendships.

Bob Huntoon is best remembered by those who worked with him for his calm manner, even when surrounded by the near chaos of war, and for his clear scientific thinking. His was the rare and remarkable combination of scientist and manager, with the scientist being predominant.

JOACOB RABINOW
*National Institute of Standards
and Technology
Gaithersburg, Maryland*

Carl Oberman

Carl Oberman, formerly of Princeton University and an adjunct professor in the physics department of the University of California, Irvine, died of lung cancer on 12 April 1993.

Carl was born in California on 29 July 1925. He served in the US Army from 1943–46, then received his BS in physics from the California Institute of Technology in 1948. In 1954 he received his PhD in physics from Ohio State University. From 1952–55 he was an assistant professor of physics at Lafayette College in Pennsylvania.

In 1955 Carl joined Princeton University's fledgling Project Matterhorn (later to become the Princeton Plasma Physics Laboratory), whose goal under the direction of Lyman Spitzer was to develop nuclear fusion for commercial power production. In 1966 Carl became both a principal research physicist at PPPL and a lecturer with the rank of professor in the university's department of astrophysical sciences. He remained in those positions until 1991, when he moved to the University of California, Irvine.

In Carl's almost 40-year career in plasma physics, he made seminal contributions to a variety of important areas. With Martin Kruskal, he developed the energy principle for kinetic plasma stability, which is still explored and generalized today. Carl pioneered the rigorous mathematical calculation of the classical high-frequency conductivity of a fully ionized plasma; the insights and techniques for

radiation theory that stemmed from this research are now classic. His insight and tenacity were essential in the development of the nonlinear theory of parametric instabilities within the weak-turbulence framework, including the problem of nonlinear saturation. With his students and colleagues, Carl then carried out a campaign to systematize the foundations of plasma turbulence and transport theory, transforming that theory into a practical tool; he remained deeply interested in this topic and other challenges of nonlinear physics for the remainder of his career.

Carl demonstrated superb judgment in his choice of research problems; many of his papers have stood the test of time. He had the highest integrity, both scientific and personal. His passion for physics, deep insight and careful attention to proper foundations inspired the successful research careers of several generations of his graduate students. Carl's sociability, acute wit and constant output of improbable stories brightened the lives of all those who interacted with him. As a pioneering physicist, role model and friend, he is greatly missed.

JOHN KROMMES
ERNEST VALEO
*Princeton University
Princeton, New Jersey*
NORMAN ROSTOKER
University of California, Irvine

Michael A. Schluter

The death of Michael A. Schluter on 17 November 1992, at the age of 47, was a tragic loss for the condensed matter physics community and especially for his many colleagues who regard his scientific work with deep respect and admiration. He will be remembered as much for the exceptional lucidity of his technical presentations and the diplomatic style of his personal interactions as for his scientific achievements.

Michael was born on 23 February 1945 in Straubing, Germany. He received his Diplom degree in physics in 1969 from Karlsruhe Technical University and his PhD in 1973 from the Ecole Polytechnique Federale in Lausanne, Switzerland, where he did theoretical work in Emanuel Mooser's group on the electronic structure of layered compounds.

Michael then spent two years as a postdoc in Marvin Cohen's group at the University of California, Berkeley, and in 1975 he joined AT&T Bell Laboratories as a permanent member of the technical staff. He stayed at