

OSA will present the R. W. Wood Prize to **Dana Z. Anderson** for "pioneering work on photorefractive gain in ring resonators." Anderson is a professor of physics at the University of Colorado, Boulder, and a fellow at the Joint Institute for Laboratory Astrophysics there.

Most of the 1994 awards will be presented at OSA's annual meeting, to be held in October in Dallas. The Tyndall Award was presented in February at the Optical Fiber Communication Conference in San Jose, California; the Townes Award was presented in May at the Conference on Lasers and Electro-Optics in Anaheim, California.

NAS SELECTS NEW MEMBERS

The National Academy of Sciences announced in late April the names of its newly elected US members and foreign associates. Among those joining the ranks of the NAS are the following:

Eric G. Adelberger, professor in the nuclear physics laboratory at the University of Washington, Seattle

Donald L. D. Caspar, professor of physics and research professor of structural biology at Brandeis University

Leroy L. Chang, dean of science at Hong Kong University of Science and Technology

Stanley Deser, Ancell Professor of Physics at Brandeis University

James R. Holton, professor of meteorology at the University of Washington, Seattle

Charles D. Keeling, professor of oceanography at Scripps Institute of Oceanography, La Jolla, California

Sung-Hou Kim, professor of chemistry at the University of California, Berkeley

Herwig Kogelnik, director of the photonics research laboratory at AT&T Bell Laboratories in Holmdel, New Jersey

Robert B. Laughlin, the Anne T. and Robert M. Bass Professor in the physics department at Stanford University

Andrew J. Majda, professor of mathematics at Princeton University

Pamela A. Matson, research scientist in Earth systems science at NASA's Ames Research Center, Moffett Field, California

David R. Nelson, Mallinckrodt Professor of Physics at Harvard University

William H. Press, professor of astronomy and physics, Harvard University

John M. Rowell, vice president and chief technical officer of Conductus, Inc., Sunnyvale, California

Myriam Sarachik, professor of physics at City College of New York

Edward M. Stolper, William E. Leonhard Professor of Geology at Caltech

George Veronis, professor of geophysics and applied science, Henry Barnard Davis Professor of Physics and director of the applied mathematics program at Yale University.

The 15 newly elected foreign associates include:

George K. Batchelor, professor emeritus of applied mathematics and theoretical physics at Cambridge University in England

Alan Carrington, Royal Society Research Professor at the University of Southampton, England

Claude Cohen-Tannoudji, professor of physics at the Collège de France in Paris

Paul J. Crutzen, director of the Max Planck Institute for Chemistry in Mainz, Germany

Sergei P. Novikov, head of the mathematics group at the L. D. Landau Institute of Theoretical Physics in Moscow, Russia

Stuart Ross Taylor, visiting fellow at the Research School of Physical Sciences, Australian National University in Canberra.

IN BRIEF

G. Brent Dalrymple has left the US Geological Survey to become dean of the college of oceanic and atmospheric sciences at Oregon State University, Corvallis.

Alan G. Marshall has moved from Ohio State University, Columbus, to join Florida State University as professor of chemistry and director of the ion cyclotron resonance program at the National High Magnetic Field Laboratory.

Karl A. Stetson has retired from United Technologies Research Center in East Hartford, Connecticut, to found his own company, Karl Stetson Associates, in Coventry, Connecticut.

The European Physical Society has conferred its 1994 Hewlett-Packard Europhysics Prize on four individuals:

Donald R. Huffman of the University of Arizona, Tucson, **Wolfgang Krätschmer** of the Max Planck Institute for Nuclear Physics in Heidelberg, Germany, **Harold Kroto** of the University of Sussex, England, and **Richard E. Smalley** of Rice Univer-

sity. The four were collectively honored for "the discovery of new molecular forms of carbon and their production in the solid state."

OBITUARIES

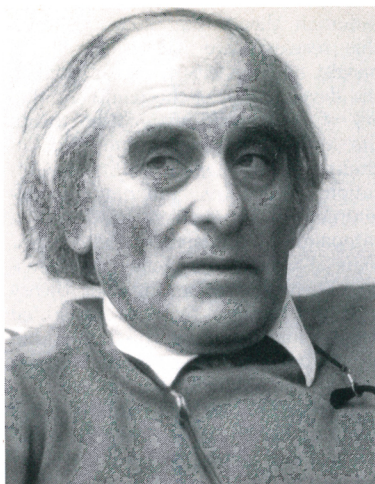
G. P. S. Occhialini

Giuseppe Occhialini, universally known to the older generation of physicists as "Beppo," died, after a long illness, on 30 December 1993 in Paris, where he had gone from his home in Italy for medical treatment. With his death the world loses not only a great physicist of exceptional accomplishments, but also a most singular, magnetic personality, one of the last of a rare species: the physicist-adventurer. His modesty, his unorthodox behavior and a number of outside circumstances prevented him from receiving a fair share of the recognition for the fundamental discoveries to which he had contributed so significantly.

Occhialini was born on 5 December 1907 in Fossombrone, Italy. He graduated from Florence University and was a research assistant there from 1932 to 1937. An extraordinary trio of young men were contemporaries at that institution: Gilberto Bernardini, Occhialini and Bruno Rossi. It was in Florence that Rossi invented the coincidence circuit. On an Italian fellowship (1931-34), Occhialini went to Cambridge to work with Patrick Blackett, an authority in cloud chamber physics. Beppo brought the Florentine counter techniques to the Cavendish Laboratory, where Blackett and he developed the controlled cloud chamber, which was triggered by coincidences generated by cosmic rays. One of the first fruits of their collaboration was the discovery of electron-positron *pairs*, an almost immediate confirmation (and extension) of Carl Anderson's discovery of low-mass positive tracks in an untriggered cloud chamber at Caltech. In 1948 Blackett received the Nobel Prize "for the development of the Wilson cloud chamber method."

In 1937 Occhialini left Italy for Brazil, where he worked on cosmic rays at São Paulo University until the end of the war. (His emigration was probably politically motivated, as he was viscerally anti-Fascist and anti-authoritarian.) In 1945 he accepted a research appointment at Bristol, to work with Cecil Powell on the study of cosmic rays by means of nuclear emulsions. Powell had already worked with this technique in nuclear physics, and Walter Heitler had di-

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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