

at Pennsylvania State University.

The Silver Medal in Speech Communication went to **Peter Ladefoged** for "advancing the theory of acoustic phonetics and phonology using acoustic field data from many of the world's languages." Ladefoged is a professor of linguistics at the University of California, Los Angeles.

William J. Cavanaugh was given a Distinguished Service Citation for his "diverse and sustained services in initiating and guiding [ASA] activities, in counseling colleagues in the society and in introducing generations of students to acoustics." Cavanaugh is cofounder of Cavanaugh Tocci Associates, a consulting firm in Sudbury, Massachusetts.

At the meeting ASA also honored outstanding writing on acoustics. **Jane Brody** of *The New York Times* received the ASA Science Writing Award for a Journalist for her article "Picking Up Mammals' Deep Notes," which appeared in the *Times* on 9 November 1993. **Masakazu Konishi**, the Bing Professor of Behavioral Biology at Caltech, was given the ASA Science Writing Award for a Professional in Acoustics in recognition of his piece "Listening with Two Ears," which appeared in the April 1993 issue of *Scientific American*.

BOWER AWARD GIVEN TO YANG

Chen Ning Yang, Albert Einstein Professor and director of the Institute for Theoretical Physics at the State University of New York, Stony Brook, is the 1994 recipient of the Bower Award and Prize in Science, given annually by the Franklin Institute. The institute praised Yang for "the formulation of a general field theory which synthesizes the physical laws of nature and provides us with an understanding of the fundamental forces of the universe. As one of the conceptual masterpieces of the 20th century, explaining the interaction of subatomic particles, his theory has profoundly reshaped the development of physics and modern geometry during the last 40 years."

IN BRIEF

Theresa Fuess, who had been with the Superconducting Super Collider project as a representative of the Collider Detector Facility, has become an assistant physicist in the high-energy

physics division of Argonne National Laboratory.

The first scientific program head of the Advanced Light Source at the Lawrence Berkeley Laboratory is **Neville Smith**, who comes to the light source from AT&T Bell Labs.

The physics departments of the New Jersey Institute of Technology and Rutgers University, Newark, have merged. The new chair of the federated physics departments will be **Anthony M. Johnson**, who has been until now a distinguished member of the technical staff in the photonics circuits research department at AT&T Bell Labs in Holmdel, New Jersey.

Allen H. Boozer, previously a principal research physicist at Princeton University's Plasma Physics Laboratory, has been appointed professor of applied physics at Columbia University.

Taking retirement from AT&T Bell Labs, where he was head of the radio physics research department, **Robert Wilson** has joined the Harvard-Smithsonian Center for Astrophysics as a senior scientist.

In November the Honda Foundation presented its 1994 Honda Prize to **Benoit B. Mandelbrot**, IBM fellow emeritus at the Thomas J. Watson Research Center, in Yorktown Heights, New York, and Abraham Robinson Adjunct Professor of Mathematical Sciences at Yale. Mandelbrot was honored for "contributing to the establishment of a harmony between mathematics and science and culture and the environment that surrounds human activities," and for developing "a better understanding worldwide of science and for new tools to solve the problems induced by modern progress."

Fred Hoyle and **Martin Schwarzschild** were awarded the 1994 Balzan Prize for Astrophysics by the Fondazione Internazionale Premio E. Balzan. The two were honored for "their pioneering contributions to the theory of stellar evolution, upon which the modern development of the field is uniquely dependent." Hoyle is an honorary fellow at both St. John's College and at Emmanuel College of Cambridge University in Cambridge, England, and Schwarzschild is a senior research associate at Princeton University.

OBITUARIES

Julius Adams Stratton

Julius Adams Stratton, scientist, engineer, creative administrator and government adviser, died in Boston, Massachusetts, on 22 June 1994. He was 93 years of age.

Jay was born in Seattle, Washington, on 18 May 1901. He entered the University of Washington in 1919 and a year later transferred to MIT, beginning an association with that institution that spanned more than seven decades.

In 1923 Jay received an SB degree in electrical engineering from MIT. He spent the next year in France, studying history, philosophy and French literature at the Universities of Grenoble and Toulouse. He returned to MIT in 1924 and received an SM degree in electrical engineering in 1926. An MIT trav-



Julius Adams Stratton

eling fellowship took him back to Europe, where he earned a ScD in mathematical physics at the Swiss Federal Institute of Technology in Zurich in 1928, working under Peter Debye.

Jay then returned to MIT as an assistant professor in the department of electrical engineering. In 1930 he moved to the department of physics, where he became a full professor in 1941. The appointment in physics coincided with the appointment of Karl T. Compton as president of the institute. Compton was committed to the strengthening and revitalization of the basic sciences at MIT, and Jay Stratton played a major role in the

revision of curricula and in the expansion of graduate study in physics.

Jay's research in the 1930s focused on short electromagnetic waves—their generation, launching, propagation and reception. This work led to a better understanding of radio systems operating at all frequencies and to techniques for applying Maxwell's equations in the analysis and design of high-frequency radio systems. His seminal work in this area was his 1941 book *Electromagnetic Theory* (McGraw-Hill), which is still in use today.

In 1940 Jay became one of the first staff members of the Radiation Laboratory, established at MIT by the National Defense Research Committee. This laboratory developed radar as a practical tool of enormous importance in World War II and pioneered a system of long-range navigation (LORAN) with radio beams, enabling airplanes and ships to determine their locations.

From 1942 through the end of the war, Jay was assigned to duty in Washington as an expert consultant to the Secretary of War, Henry L. Stimson. There Jay worked on radio guidance systems for aircraft, ground-based radar and all-weather flying systems, all of which were used in the North Atlantic air ferry route. In preparation for the June 1944 invasion of Normandy, he was involved in the assessment of the use of airborne radar in bombing.

In 1945 Jay Stratton returned to MIT to become the first director of the Research Laboratory of Electronics, which was formally established a year later. This interdepartmental laboratory, a descendant of the Radiation Laboratory and the first of its kind at a university, engaged faculty and students in both fundamental and focused research across a broad spectrum of topics, including particle accelerators, plasma physics, microwave communications, analog and digital computation, biophysics, neurophysiology and the application of Norbert Wiener's mathematics to signal processing. Under Jay's leadership RLE became a paradigm for the organization and effective conduct of cross-disciplinary research at universities.

Jay's career changed direction in 1949, when he became MIT's first provost. The duties of vice president were added in 1951, and in 1956 he became chancellor. In 1957 he was appointed acting president, and on 1 January 1959 he succeeded James R. Killian and became MIT's 11th president.

Jay's work in academic administration during the 1950s and the 1960s was characterized by his deep

concern for the educational programs at the institute at all levels, by his conviction that the arts and social sciences should play a larger role in its educational and research programs, by his commitment to the highest standards of excellence and, most importantly, by his rich humanity and his deep, caring respect for his colleagues.

Jay was an important figure in the formation of the National Academy of Engineering. A member of the National Academy of Sciences since 1950, and its vice president from 1961 to 1965, Jay was asked to explore with the Engineers Joint Council the possibility of founding a similar organization for engineering. This was not an easy assignment, but in 1964 the NAE was founded. As one of the founding members of the new academy Jay was instrumental in shaping it and guiding it through the early years.

Jay Stratton's career changed again in 1966, when he retired as president of MIT. A trustee of the Ford Foundation since 1955, he now moved to New York to become chairman of the board of the foundation—a position he held until his retirement in 1971.

He was appointed in 1967 by President Lyndon B. Johnson as chairman of the Commission on Marine Science, Engineering and Resources, which had been established by Congress to carry out a complete review of marine activities and resources in relation to national needs, to formulate a national program for marine affairs and to recommend organizational structures to support that program. The landmark 1969 report of the commission, *Our Nation and the Sea*, led to the formation of the National Oceanic and Atmospheric Administration and to the Coastal Zone Management Program.

In 1971 Jay Stratton returned to MIT, where, as a life member of its governing board and a much loved member of the community, he was a friend, wise colleague and frequent adviser to many, including this writer. During these years he worked with his longtime colleague, collaborator and coauthor, Loretta H. Mannix, on the preparation of a soon-to-be-published history of MIT in the 19th century. When the 20th-century history of this special place is written, the leadership and seminal influence of this remarkable man will be a large part of that story.

PAUL E. GRAY

Massachusetts Institute of Technology
Cambridge, Massachusetts

Alfred O. C. Nier

Alfred O. C. Nier, a pioneer in the development and application of mass spectrometers, died on 16 May 1994, at the age of 82, two weeks after an accident in which he was seriously injured.

Alfred Nier's career was always closely associated with the University of Minnesota, where he started as a freshman in 1927. After he completed his BS and MS at the University of Minnesota in electrical engineering, he transferred his interests to physics. John Tate of the physics department served as Nier's graduate adviser and introduced him to atomic and molecular physics. Tate also encouraged Nier to start research with



Alfred O. C. Nier

mass spectrometers. During the course of Nier's thesis research, which involved measurements of the isotopic abundances of argon, potassium, zinc, rubidium and cadmium, he discovered the rare isotope ^{40}K .

Following his graduation in 1936 he was awarded a National Research Council fellowship to work with Kenneth T. Bainbridge at Harvard. A large mass spectrometer was assembled at Harvard that could measure isotopic abundance ratios of the heaviest elements. Using this instrument, Nier was the first to measure the $^{235}\text{U}/^{238}\text{U}$ abundance ratio. Other measurements by Nier, of radiogenic and common lead samples, resulted in a significant improvement in the determination of the geological time scale. For his outstanding work in geochronology, he was awarded the 1956 Arthur L. Day medal of the Geological Society of America.

Nier returned to the University of Minnesota in 1938 as an assistant