Mildred Widgoff

women in science, Mildred Widgoff was a successful scientist and a pathfinder for others. Her research career spanned the fields now called particle physics and particle astrophysics, and covered not only the development of our understanding of the physics but also a series of revolutions in the associated detector technology she used. A professor of physics emerita at Brown University, Mildred died at her home in Barrington, Rhode Island, on 21 July 2004 after a short illness.

Born on 24 August 1924 in Buffalo, New York, Mildred received a BA in physics from the University of Buffalo in 1944. Still only 19 years old, she was recruited to work on the Manhattan Project. In 1952, she completed graduate study in Cornell University's cosmic-ray group under the leadership of Giuseppe Cocconi and Kenneth Greisen and received her PhD with a thesis entitled "Neutrons from Interactions of Mu Mesons in Various Targets." After an apprenticeship in the group's high-altitude work on Mt. Evans, Colorado (now the site of the Meyer–Womble Observatory), she carried out her own research on cosmic-ray muons in an early underground site in Ithaca, New York. Mildred often joked about a certain symmetry in her research career: After years at accelerator facilities, her last experiment was also underground, at the Gran Sasso Laboratory in Italy, and involved the study of cosmic-ray muons.

Mildred subsequently joined the research staff of Brookhaven National Laboratory and, in 1955, became a research fellow at the Harvard University Cyclotron Laboratory. In 1958, she joined the Brown faculty as a research assistant professor and worked concurrently at Harvard until 1961 as a consultant for the Cambridge Electron Accelerator. She remained a faculty member at Brown and continued active involvement in particle physics experiments at facilities worldwide until her retirement as professor in 1995.

At an time when "strange particles" in cosmic rays were studied using cloud chambers and emulsions, her first experiments after arriving at Brown centered on the so-called tau-theta puzzle and involved the use of emulsions exposed to the accelerator beams of the newly built Cosmotron at Brookhaven and Bevatron at the University of California, Berkeley. She also carried out emulsion work at the Harvard cyclotron.

During the 1960s, Mildred engaged in experiments as part of the Cambridge Bubble Chamber Group, a collaboration of scientists from Brown, Brandeis University, Harvard, and MIT. That work included a series of studies of meson spectroscopy via photoproduction at the Cambridge Electron Accelerator. As a member of the International Hybrid Spectrometer Collaboration (IHSC), she constructed a large counter hodoscope system so that a spectrometer could be added to form a powerful hybrid system that was installed at Fermilab in the 1970s and 1980s. With the availability of very-high-energy photon beams at SLAC, she used photoproduction as a spectroscopy tool.

Following the SLAC experiments, Mildred took an active role in the construction and subsequent use of the Large Volume Detector at Gran Sasso to do neutrino astrophysics. Her hardware and software contributions were critical to the success of not only the LVD, but also the Cambridge Bubble Chamber Group and the IHSC.

Mildred was involved in the affairs of Brown University and in its physics department. She was Brown's executive officer from 1968 to 1980. She served the physics community as chair and member of the American Physical Society's committee on the status of women in physics (1973–75) and as chair of APS's New England section (1974–75). From 1976 to 1985, she was a trustee of the American Institute of Physics Insurance Trust. In 1990, she served on the NSF panel Faculty Awards for Women.

Mildred had one of the most positive outlooks of anyone we knew. She genuinely loved being with people, doing physics, and making things work. To her students, she was a devoted mentor and a caring friend. To us, she was a unique and beloved colleague.

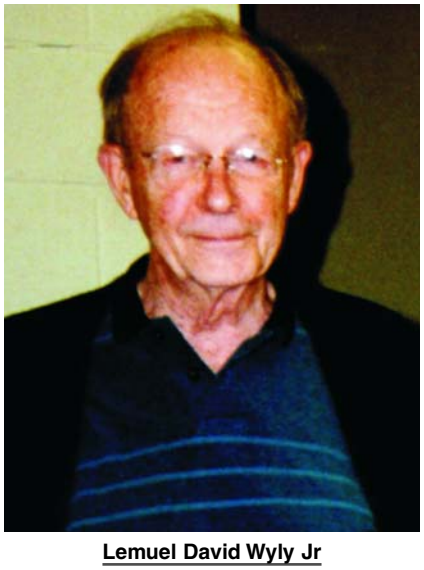
**David Cutts**
**Robert Lanou**
*Brown University*
*Providence, Rhode Island*
**Irwin Pless**
*Massachusetts Institute of Technology*
*Cambridge*

## Lemuel David Wyly Jr

Lemuel David Wyly Jr, Regents' Professor of Physics Emeritus at the Georgia Institute of Technology, died on 6 September 2004 in Atlanta, Georgia.

Dave, as he was known to his colleagues, was born on 9 August 1916 in Seneca, South Carolina. Raised in a family environment that emphasized unselfish service, he completed his undergraduate studies in 1938 with a BS in physics from The Citadel, The Military College of South Carolina. From there he went on for an MA in physics from the University of North Carolina at Chapel Hill. After he completed his graduate work in 1939, he joined the faculty of Georgia Tech as an instructor in the School of Physics. That association was interrupted by the outbreak of World War II; during the war, Dave served as a major in the US Army and worked on radar development.

Within a year of the war's end, Dave, who likely was influenced by the knowledge that two of his senior



Lemuel David Wyly Jr

colleagues at Georgia Tech had received their doctorates from Yale University, decided to pursue additional graduate studies at that institution. He received his PhD there in 1949. His doctoral research with Ernest Pollard's group and their use of the Yale cyclotron led to his first published

papers on (d,p) reactions in nitrogen and helium. On his return to Georgia Tech later that same year, he set about what was to become a major focus of his professional career: creating a department in which serious graduate education and research could take place alongside a quality undergraduate program.

Within the next few years, with the cooperation of like-minded faculty and students, Dave had built up an experimental nuclear physics laboratory and had become a dominant influence in establishing the newly authorized PhD program. The success of those efforts is evident: Beginning in 1954 and extending over two decades, Georgia Tech's School of Physics became a continuing source of papers relating to nuclear decay schemes and nuclear structure. Included in that list of contributions was the thesis research for the first doctorate in physics ever to be awarded by a unit of the Georgia university system. From the mid-1950s through the early 1970s, Dave also conducted research using the Oak Ridge National Laboratory cyclotron and was a consultant to the Georgia Nuclear Advisory Committee.

Dave, however, did not confine his efforts solely to research. He was an outstanding teacher at both the graduate and undergraduate levels. Noted for the clarity and vigor of his lectures, he sought to leave his students with an almost visceral feeling for the physical concepts involved. Throughout his career, he maintained a high standard and expected no less from those who studied with him. He has served as a role model and an inspiration for generations of graduates.

Beyond the classroom and laboratory, Dave was the driving force behind a complete revision of the school's undergraduate program during 1965 and 1966. His efforts led to an increase in the quality and attractiveness of the physics major so that Georgia Tech became a top producer of physics bachelor's degrees in the US. The significance of his contributions was recognized locally when Georgia Tech awarded him its first Regents' Professorship in 1959.

Knowledgeable in his science, forthright and courteous in his conversation, Dave was the personification of a true gentleman and scholar. He is missed by those students and colleagues who came to know him.

**Ronald F. Fox**
**James R. Stevenson**
**Henry S. Valk**
*Georgia Institute of Technology*
*Atlanta* ■