



William B. Fareport, Jr.

WILBUR B. DAVENPORT JR.

1920–2003

Elected in 1975

*“For Contributions to communications engineering and education
and for leadership in continuing engineering education.”*

BY LEO L. BERANEK

WILBUR B. DAVENPORT, Professor Emeritus of Communication Science and Engineering at the Massachusetts Institute of Technology (MIT), died on August 28, 2003. He was born in Philadelphia, Pennsylvania, on July 27, 1920.

Wilbur received the degree of Bachelor of Electrical Engineering in 1941 from the Alabama Polytechnic Institute, Auburn, Alabama. He matriculated that fall at MIT and received the Master of Science degree in 1943. From 1943 to 1946, he was ensign and lieutenant junior grade in the U.S. Naval Reserve. When he completed his active military service, he returned to MIT and, in 1950, received the Doctor of Science degree. His first published paper, “Statistical Errors in Measurements on Random Time Functions,” co-authored by R.A. Johnson and D. Middleton, appeared in the *Journal of Applied Physics* in April 1952. The paper was the first in a series on statistical theory.

Wilbur was made an assistant professor of electrical engineering in 1949, when Harold Hazen was chairman of the department. When the Lincoln Laboratory was founded in 1951, Wilbur was invited to be one of its first members as a group leader. In 1955, he was named associate division head, and two years later he became division head, a title he held for three years.

In 1960, Gordon Brown, head of the Department of Electrical Engineering, asked Wilbur to become a professor of electrical engineering. In 1961, he appointed Wilbur associate head of

the Research Laboratory for Electronics (RLE), a position he held for two years. At RLE, while working on a project to make radio communications secure, Wilbur was involved in the development of “spread-spectrum” techniques, which were highly classified at the time but much later became common in cordless telephones. His principal publication during that period was “An Experimental Study of Speech-Wave Probability Distributions” in the *Journal of the Acoustical Society of America*. In 1963, he returned to Lincoln Laboratory as assistant director to supervise the work of a half dozen graduate students, including two military officers, on spread-spectrum techniques, called, at MIT, NOMAC (noise modulation and correlation).

In 1971, Wilbur was appointed associate head of the Department of Electrical Engineering and the next year, director of the Center for Advanced Engineering Study, a position he held until 1974. At the time, the faculty was trying to determine which courses should be offered in computer hardware and software, which were burgeoning new technologies. Some members of the department were already involved in Project MAC; several project leaders at Lincoln Laboratory had helped develop the TX(0) computer and then left to form the Digital Equipment Corporation; another group had left to join Bolt Beranek and Newman Inc., which developed and built the beginnings of the Internet. Faculty members were also in constant communication with engineers at IBM Corporation.

As the number of students and faculty in the department increased, largely because of computers, some faculty members recommended that computer sciences be made a separate department. The situation was suddenly complicated when Louis Smullin announced that he would step down as head of the Department of Electrical Engineering in June 1974, and a search committee was established to seek a replacement. During its interviews and studies of the candidates, the committee concluded that the person selected had to be acceptable to both computer scientists and electrical engineers. The dean of engineering and MIT officers decided that Wilbur was the most qualified and acceptable to the department faculty as a whole, and he was appointed chairman in 1974.

In an interview with the *MIT TECH* newspaper, Wilbur described his job: “The role of a department head is to work with the faculty to develop a curriculum that meets the needs of the graduating students. He must get along with people who are his intellectual peers and with people who are of different ages. He must be concerned with the teaching of the human side of engineering, the world in which the engineer lives. Implementing all aspects of engineering education is difficult because the department’s objectives must be met without costing itself out of existence.”

The debate about making computer sciences a separate department continued, however. Opponents argued that a new department would create new walls and would be a bad move. Supporters contended that it was irrational that students in computer science be required to take the core courses of electrical engineering. Wilbur felt that curriculum reform, rather than two departments, was the way to go. A consensus was reached that more integration of the diverse disciplines in electrical engineering would be a healthier course of action. To reflect that consensus, the department was renamed the Department of Electrical Engineering and Computer Science. Wilbur remained department head for four years but finally resigned, “Over the last few years I have begun to feel ground down by all the problems. Happily there are enough competent people around that I can relax knowing that the department will be in good hands.” He remained on the faculty as a professor.

Wilbur served on a number of national committees. He was consultant to the Office of the Special Assistant to the President for Science and Technology from 1961 to 1973, a member of the Carnegie Commission on the Future of Public Broadcasting from 1977 to 1979, and a member of the Air Force Scientific Advisory Board from 1976 to 1979. He was also a director of the GenRad Corporation from 1974 to 1982.

Among his publications were two books that received international attention, *An Introduction to the Theory of Random Signals and Noise*, with W.L. Root (McGraw-Hill, 1958, republished, 1987), and *Probability and Random Processes* (McGraw-Hill, 1970, reissued 1987).

In 1982, Wilbur and his wife, Joan, moved to Honolulu, where he became visiting professor of electrical engineering at the University of Hawaii at Manoa; he remained in that position until 1987, although he returned to Hawaii to teach in spring terms from 1989 through 1993. From 1984 to 1987, he was a member of the Executive Committee, Pacific International Center for High Technology Research, in Honolulu.

In 1987, the Davenports returned to the mainland and settled in Sunriver, Oregon, where Wilbur was an active member of the Public Works Committee of the Sunriver Owners Association. From 1988 to 1990, he was a member of the Industrial Advisory Committee of the Department of Applied Physics and Electrical Engineering, Oregon Graduate Center, in Beaverton, Oregon. From 1994 to 1995, he was a trustee of the Sunriver Preparatory School. During this time, he and his wife also traveled extensively throughout Europe, Canada, and the United States, including Alaska. As a hobby, he enjoyed doing lapidary work along with a number of his friends.

Wilbur received numerous honors, including fellowship or membership in the Institute of Electrical and Electronics Engineers (IEEE) (1958), National Academy of Engineering (1975), American Academy of Arts and Sciences (1977), and American Association for the Advancement of Science (1979). He received a Certificate of Commendation from the U.S. Navy in 1960 and the Pioneer Award of the IEEE Aerospace and Electronic Systems Society in 1981.

Wilbur was an engineer of the highest capabilities and integrity who always gave of himself wholeheartedly. He inspired confidence in his peers and earned their highest respect. The Davenports spent many happy hours at their cabin on Lake Winnepesaukee in New Hampshire with family and friends swimming, waterskiing, sailing or hiking in the nearby mountains. He is survived by his wife, Joan, now living in Medford, Oregon; a son, Mark, of Turlock, California; and a daughter, Sally Clevenger, of Bellbrook, Ohio.

