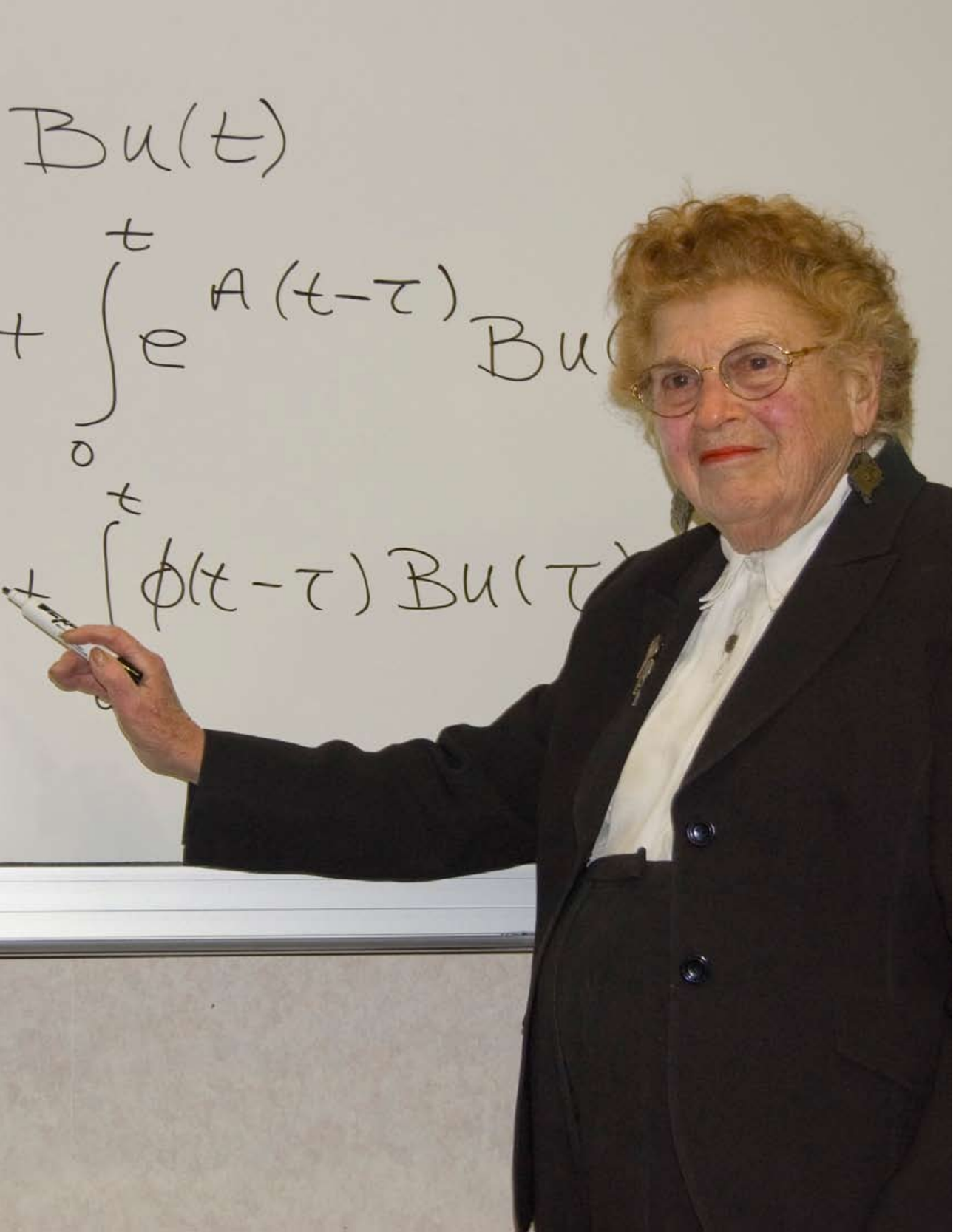

Pioneering Bioengineering

GLORIA REINISH
BS '45, MS '48 ELECTRICAL ENGINEERING, EngScD '74 BIOENGINEERING
PROFESSOR OF BIOENGINEERING, FAIRLEIGH DICKINSON UNIVERSITY

In the record books, Gloria Brooks Reinish can rightly claim to be the first woman graduate of Columbia Engineering, receiving her BS degree in electrical engineering in 1945. She is also a pioneer in the field of bioengineering and, in 1974, became one of the first Columbia women to earn a doctorate in that emerging field.

Reinish's revolutionary work for her doctoral thesis was on the electrical properties of human bones, using electricity to stimulate bone growth. Her expertise led to an appointment as a consultant to the FDA panel that approved medical devices designed to provide electrical stimulation to help bones knit together more quickly.

But Reinish did not move directly from an established academic field (electrical engineering) to a nascent interdisciplinary one (bioengineering). Life, love, and children intervened.

Following her graduation from Columbia Engineering at the age of 19 (she was part of the war-time accelerated program), she went to work for Bell Labs and then to Sperry Gyroscope, where she worked on radar systems. Her research at Sperry led to a patent on a radar ranging system.

During these years, she met her University of Pennsylvania-trained chemical engineer husband in the Poconos. They married in 1948, and he went on to become a Research Fellow in R&D for detergents. When she became pregnant in 1951, she retired from the workforce—temporarily. She wanted to stay home with her baby—at least for the short term. Soon she realized she also wanted something "mentally stimulating," so she started taking some classes at Columbia. "I started out not really thinking I was going to do it toward the doctorate," she says.

After three children (two girls and a boy), she tried being a high school substitute teacher for math and physics. It was not a good fit. Then, in 1961, she sent her qualifications to Fairleigh Dickinson University, 10 minutes from her home. "Much to my amazement, I got a call immediately," she says. Two days later, she started teaching an electronics class there. That made life a little difficult for her because her children were then 1, 5, and 10 years old.

As it turns out, the children grew up unscathed, and all engineers. Jim Reinish received his degree in operations research from Columbia Engineering in 1982; Julie Askins received her degree in electrical engineering from Princeton in 1977; and Nancy Passow received her degree in chemical engineering from Columbia in 1972. Even in this arena, Reinish can boast of two "firsts." She is the only woman who has been a student at Columbia Engineering at the same time as her daughter (Nancy Passow), and, in a matter of months, will be the only Columbia alumna who can boast that a child (Jim Reinish) and grandchild (Jim's daughter, Ariel '10) are also graduates of the School.

During her tenure at FDU, Reinish has been chair of the Electrical Engineering Department and founding chair of the bioengineering program. Reinish still teaches at least four classes each semester, in the classroom and on the Web.

As she approaches her 65th reunion this year, she is prepared to be one of the few engineers who are still working, and certainly the only woman. In this respect, too, Reinish may go into the record books.