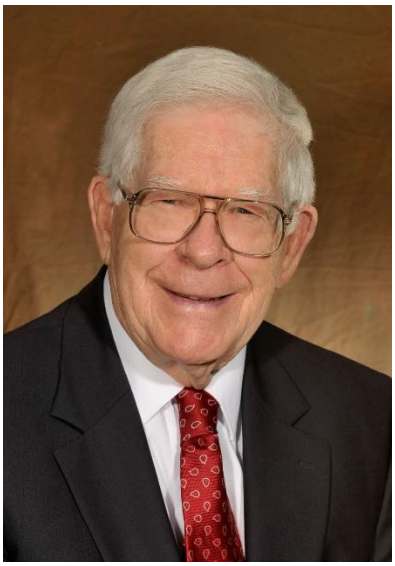
Professor Carl J. McHargue passed away on February 27, 2022



Carl J. McHargue, age 96 of Knoxville, TN (USA), passed away at his home on February 27, 2022. He was Professor Emeritus at the University of Tennessee-Knoxville at the time of his death. Carl was a long-time, active member of the ion-beam modification, ion-beam analysis and radiation effects communities, both domestically and internationally. Many of us knew him as a mentor, research colleague and gifted orator.

A native of Corbin, Kentucky, Carl served in the U.S. Army during World War II. Following his discharge in 1946, he entered the University of Kentucky, receiving a Bachelor of Science in metallurgical engineering (with honors) in 1949, and a Master of Science in metallurgical engineering in 1951. He remained at the University of Kentucky to earn the first doctorate awarded by the College of Engineering in 1953. Carl joined the staff of the Oak Ridge National Laboratory (ORNL) in 1953, where he held various research and management positions until his retirement in 1990. As manager of materials sciences, he developed one of the largest programs in basic materials research in the United States and made major contributions to the understanding of irradiation effects in solids. His work on textures at ORNL provided the basis of modern practice, and he performed pioneering work in phase transformations of rare earth metals, plastic deformation of metals and ceramics, diffusion, and radiation damage. He also initiated the materials development program in support of the Fusion Energy Program, as well as programs to support other advanced energy systems.

In 1954, Carl was appointed to dual positions with the Oak Ridge National Laboratory and as professor of Materials Science and Engineering at the University of Tennessee-Knoxville. After his retirement from ORNL in 1990, Carl continued as a professor of Materials Science and Engineering (MSE) and served as the Director of the Center for Materials Processing at the University of Tennessee-Knoxville. Of Carl's many service contributions to academia, one of the most impactful was his active participation with the Accreditation Board for Engineering and Technology (ABET), the organization that accredits college and university programs in various disciplines, including engineering programs at the bachelor's degree levels, and Carl was recognized as a Fellow of ABET in 2008. In addition, his work in international engineering education led to honorary membership in the Order of Engineers (Portugal). After his retirement from the University of Tennessee in 2012, he continued teaching courses on defects, metallurgy and thermodynamics until 2016, and he consulted with the U.S. Army Missile Defense Command and Apple Inc. His research has resulted in over 230 refereed articles in international journals.

Carl held membership in numerous professional and honor societies including Tau Beta Pi and Sigma Xi. He was inducted as a Fellow of The Metallurgical Society in 1978, which is the society's highest honor, and was a recipient of the TMS Distinguished Service Award in 2003. For his many significant contributions, Carl was inducted into the University of Kentucky, College of Engineering Hall of Distinction in 1995. Carl was recognized by the MSE Department at the University of Tennessee in 2018 as the third recipient of the MSE Wall of Fame, which honors those that have significantly contributed to the MSE Department. Among other awards, Carl was a Fellow of ASM International and recipient of the ORNL Technical Achievement Award, the Martin Marietta Technical Achievement Award, the American Nuclear Society Contribution to Nuclear Materials Science Award, and the Department of Energy Materials Science Award.