



Klaus A. Simmich

KLAUS D. TIMMERHAUS

1924–2011

Elected in 1975

“For contributions in research in cryogenic engineering and national leadership in support and development of chemistry and energetics research.”

BY CAROL ROWE
SUBMITTED BY THE NAE HOME SECRETARY

KLAUS D. TIMMERHAUS, professor of chemical engineering at the University of Colorado, Boulder, for 42 years, associate dean for more than 20 years, and coauthor of the widely used textbook *Plant Design and Economics for Chemical Engineers* (New York: McGraw-Hill), died on February 11, 2011. He was 86.

Known as “Tim” to friends and colleagues and “Dr. T” to his students, Klaus was born into a German-speaking home in Minneapolis, Minnesota, on September 10, 1924. He learned English starting in the first grade, and ultimately graduated as valedictorian of Palatine High School in Illinois, where he won three letters in track, served as a student editor, and was elected student body president. Long-distance running became his lifelong passion, and the leadership qualities that emerged in his early years, his strong work ethic, and the meticulousness he showed as an editor came to define his career.

After serving in the U.S. Navy during World War II as a radar specialist in Corpus Christi, Texas, he continued his education at the University of Illinois, where he earned three degrees and graduated with a Ph.D. in chemical engineering in 1951. He worked as a project design engineer for two years at Standard Oil of California Research Corporation, before joining the University of Colorado faculty. He was appointed

associate dean of engineering in 1963 by Max Peters, another esteemed chemical engineer who had been named dean of engineering at CU-Boulder the previous year.

"I knew Klaus as a grad student at the University of Illinois, where I was on the faculty," the dean recalled. "I knew he was a capable guy and so I asked him to be my associate dean." The two men worked closely together for more than three decades as college administrators, chemical engineering faculty, and coauthors of *Plant Design*, which is now in its fifth edition and has sold over 100,000 copies. They also shared athletic interests—running, skiing, and later race walking—and were regularly seen running across campus during lunch hours and in the Bolder Boulder Annual 10K Road Race, among other venues. Klaus earned many age-group titles, having been a world-class miler in his college days, and he also gave 50 years of service to the CU-Boulder track team during his free time.

"I can honestly say that Klaus is the most conscientious and dedicated person I have ever known. He truly is a great chemical engineer in every aspect of our field, in addition to being a true friend and a wonderful person," Dean Peters said in a 1985 article in *Chemical Engineering Education*.

The 1960s were an active period in the dean's office at CU-Boulder, with the planning and construction of a new engineering center complex and initiatives to improve education and research programs. Klaus prepared a proposal and secured a National Science Foundation matching grant worth \$1.325 million (in 1966 dollars) for the center's construction, the largest construction grant ever made to the university. He also directed the Engineering Research Center, a three-campus organization of the University of Colorado, in addition to serving as associate dean. "All of the research proposals went through his office and he would read every page of every proposal and correct the language before he would sign it. That's the kind of attention to detail he had," said Ronald West, a faculty colleague who retired the same year as Klaus, in 1995.

A prominent national figure in cryogenics, Klaus served as chair of chemical engineering, acting chair of aerospace

engineering, and even college safety officer, at various points in his career. He was extremely productive, which naturally led to even more projects and greater expectations being placed on him. Known for both the quantity and the quality of his work, he was founding editor of the publication *Advances in Cryogenic Engineering* (New York: Plenum Press), which he edited from 1954 to 1980. He also coedited more than 30 volumes in the International Cryogenics Monograph Series and coauthored the monograph *Cryogenic Process Engineering* (New York: Plenum Press), which is one of the most valuable texts in the field. The 1981 Cryogenic Engineering Conference was dedicated to Klaus in recognition of his 25 years of service.

Klaus was also recognized with the Samuel C. Collins Award for Outstanding Contributions to Cryogenic Technology in 1967, the Alpha Chi Sigma Award of the American Institute of Chemical Engineers for Chemical Engineering Research in 1968, and the W. T. Pentzer Award of the International Institute of Refrigeration in 1989. He was a fellow of the American Association for the Advancement of Science, the American Institute of Chemical Engineers, and the Cryogenic Society of America. He authored or coauthored 150 technical papers and was awarded one patent on cryogenic technology. In 2008 he was named one of the Top 100 Chemical Engineers of the Modern Era by the American Institute of Chemical Engineers.

He was an elected member of both the National Academy of Engineering and the Austrian Academy of Sciences. He served on two committees of the National Research Council—the Committee on Critical Technologies: The Role of Chemistry and Chemical Engineering in Maintaining and Strengthening American Technology (1991–1992) and the Committee on Chemical Engineering Frontiers: Research Needs and Opportunities (1984–1988). He was president of the American Institute of Chemical Engineers, Sigma Xi, and the International Institute of Refrigeration.

Klaus also was an outstanding teacher who took extra time and care to ensure that all of his students learned and understood the material. “He was quite an individual. He kicked me in the butt, made me work hard, and therefore I

succeeded," said James Fisher, a former student who established a scholarship in his honor in 2002. Perhaps it was the infamous red pen used to mark up their homework assignments that led engineering students to present Klaus with the "Meanest Professor" award one year, but he held it as a badge of honor. According to his daughter, Carol Getty, "He was a hard-nose, but after his death, CU sent me the evaluations his students submitted about his teaching. They universally graded him as an A+."

"He had standards, but he gave us the freedom, guidance, and opportunity to develop," recalled Scott Fogler, a University of Michigan faculty member who did his Ph.D. thesis under Klaus. "I could not have developed more as a Ph.D. student than I did at Colorado." Klaus was awarded the American Society for Engineering Education's George Westinghouse Award for Outstanding Contributions to Teaching in 1968. He also received the Tau Beta Pi Outstanding Professor Award in 1980 and the Charles A. Hutchinson Teaching Award of the College of Engineering and Applied Science in 1989. He was selected to be in the University of Colorado's inaugural class of President's Teaching Scholars in 1989, and he was the first recipient of the Hazel Barnes Prize, the university's most prestigious teaching honor, in 1992. The University of Colorado also recognized him with the Distinguished Engineering Alumni Award in 1978, the Stearns Award for Outstanding Service in 1981, the Max S. Peters Service Award in 1987, and the President's University Service Award in 1988.

As part of his legacy at CU-Boulder, Klaus left a bequest establishing the Timmerhaus Teaching Ambassador Award. The award, which will be administered under the auspices of the President's Teaching Scholars Program, will honor strong teaching and showcase the high caliber of faculty on the university's four campuses through statewide outreach by the awardee. The endowment is his family's second major gift to the university, the first being a scholarship fund that Klaus and his wife Jean established for engineering students in 1992.

“Klaus Timmerhaus exemplified the idea of a scholar—a person who is passionate about his students, his field of study, and his university,” said CU President Bruce Benson. “His generous contributions will benefit all three of these, and are a fitting legacy for a man who has been such an important part of the life of our university.”

Klaus is survived by his second wife, Jan; daughter Carol; sister Gudren; and grandchildren Kristina and Matthew. He was preceded in death by his wife of 50 years, Jean, as well as his mother, father, and sister Ingy.