In Memoriam: Herman Koenig

August 6, 2010

Herman Koenig, MSU professor emeritus and former chairperson of the Department of Electrical and Computer Engineering, died July 31, 2010. He was 85.

Koenig’s university education started while he worked on his family’s farm in Illinois. He attended Washington University and then completed his education in electrical engineering at the University of Illinois, earning a PhD in 1953. He taught and conducted research at MIT and the University of Illinois, in addition to working as a commercial design engineer, before joining the Michigan State University engineering faculty in 1956.

In 1964, at MSU, Koenig established a new undergraduate program in systems science. The systems science concepts that he helped to pioneer not only became a new major, but also were integrated into the electrical engineering curriculum. He was named chair of MSU’s Department of Electrical Engineering and Systems Science in 1968, and in 1976 he was appointed director of MSU’s Center for Environmental Quality. He served as the assistant vice president for research and industry development, focusing on the development of multidisciplinary research, before retiring from MSU in 1990.

Koenig has been internationally recognized for pioneering research and publication in modern control theory and the multidisciplinary application of engineering to biological, environmental, agricultural, and economic problems. A pragmatic visionary, Koenig leaves a legacy of human advancement by his education and inspiration of students and teachers from around the world.

“Herman was an intellectual giant who did so much to advance science and engineering,” says Satish Udpa, dean of MSU’s College of Engineering. “He was one of those very few individuals who could take the loftiest of ideas and distill them into engineering principles and practice. Above all, he was a wonderful human being. We will most certainly miss him.”

Koenig’s research organization and National Science Foundation (NSF) funding to model interdisciplinary problems mathematically and develop solutions for environmental and agricultural sustainability in the 1970s was far ahead of today’s headlines. MSU’s new BEACON Center for the Study of Evolution in Action—funded by the NSF and led by Erik Goodman, MSU professor of electrical and computer engineering—is a modern evolution of Koenig’s multidisciplinary leadership at MSU.

Koenig won a major NSF grant in 1970 to study ecological and environmental processes under its Research Applied to National Needs (RANN) program. He hired Goodman, who had completed his PhD at the University of Michigan, as a new assistant professor to teach systems science concepts to biologists and assemble multidisciplinary research teams to address environmental problems. Says Goodman, “Herman developed novel ways of modeling and understanding circuits and other engineered systems, and he had astounding insight into the usefulness of applying these concepts to understanding the dynamics of biological organisms and their environments. Herman, and those he inspired, applied systems science from the macro and societal levels down to the level of individual cells. His legacy includes countless biologists and engineers who today see the world from a systems perspective.”

Koenig authored two textbooks on engineering systems control and numerous articles relating to systems science and management analysis for agriculture, ecological systems, and economic development. In 1961, he co-authored Electromechanical System Theory with W.E. Blackwell (McGraw-Hill) and in 1967 he co-authored Analysis of Discrete Physical Systems (McGraw-Hill) with Y. Tokad and H.K. Kesavan, considered a classic text internationally for many students and subsequent work in physical control systems.

He served on the board of directors of the Michigan Technology Council and on the Governor’s Council on Jobs and...
Economic Development. He was a fellow of the Institute of Electrical and Electronics Engineers. He received an MSU Distinguished Faculty Award in 1968 and a Distinguished Alumnus Award from the University of Illinois in 1991.

In retirement, Koenig enjoyed farming and applying his many talents as a craftsman, scholar, and loving husband, father, and grandfather to his six grandchildren. His hard work, self-determination, and desire for constant improvement inspired him throughout life.

In 2001, his son Roger (BS Elec Eng ‘76) and wife, Nancy Pierce, established the Dr. Herman E. & Ruth J. Koenig Endowed Chair. This endowed chair not only recognizes Herman’s scholarly and academic leadership achievements, but also honors both of Roger’s parents for their long-term devotion to MSU and their progressive contributions to furthering engineering education.

“My father was a great educator who innovated, collaborated, and created a spirit of the possible for many at MSU and around the world. He was a man of compassion and exceptional breadth of intellect and talents,” says his son Roger. “Our family will miss our devoted husband, father, grandfather, mentor, and inspirational leader.”

Herman Koenig is survived by his wife of 61 years, Janet; son Roger and his wife, Nancy, and their children Kelly, Eric, Lara, and Douglas; and son Steven and his wife, Tamberly, and their sons Jason and Matthew. Herman and Janet’s son Bruce preceded him in death. Although greatly missed in presence, Herman’s spirit and work for the betterment of mankind will live on with those he touched. Please contact Roger L. Koenig at rkoenig@egr.msu.edu or (303) 443-4133 for information regarding the Herman E. Koenig memorial service, which will be held on September 11 at University Lutheran Church in East Lansing, Mich. A reception will follow the service.