

IN MEMORIAM
HARVEY G. CRAGON

Professor Emeritus Harvey G. Cragon of the Department of Electrical and Computer Engineering at The University of Texas at Austin passed away on September 7, 2018, in Shreveport, Louisiana, at the age of eighty-nine. He held the Ernest Cockrell, Jr. Centennial Chair in Engineering for fifteen years before retiring in 1999. Harvey, who led the development of the world's first computers with transistors and integrated circuits (ICs), was a Senior Fellow at Texas Instruments (TI). He was an accomplished researcher in the field of computer architecture and graduated several Ph.D. students at UT Austin.

Harvey was born in Louisiana on April 21, 1929, one of the four sons of Miller M. Cragon and Lou Willie Bond Cragon. In 1950, he married Henrietta Herbert Cragon, who was the love of his life. Also in 1950, Harvey graduated with a Bachelor of Science degree in Electrical Engineering from Louisiana Tech University in Ruston, Louisiana. After graduating, he worked for Southern Bell Telephone Company in New Orleans for a year and then spent two years in the U.S. Army in a unit that tested infrared night vision devices in the Mojave Desert. In 1953, he joined the Hughes Aircraft Company in Los Angeles, California, where he worked on automated air defense systems. While at Hughes, he took courses at the University of California, Los Angeles. In 1957, he moved to Tennessee, where he worked as an engineer on the digital instrumentation of a wind tunnel at the United States Air Force (USAF) Arnold Engineering Development Center in Tullahoma with a UNIVAC (Universal Automatic Computer) 1102.

In 1959, he joined Texas Instruments, Incorporated in Dallas, Texas, to work on applying digital technology to develop processors for a variety of applications, including seismic data

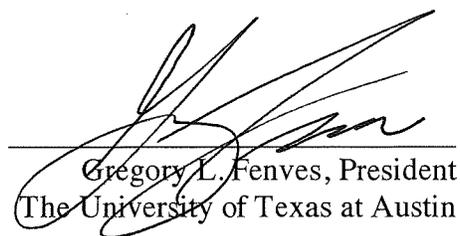
analysis. At TI, he built the first digital computer in 1961 and similar digital central processing units for use on rockets. While at TI, he led the development of the TI-870 signal processor in the mid-1960s, as well as the construction of a transistorized computer. Another project started in 1965 was the TI Advanced Scientific Computer (ASC), which was built with integrated circuits. Its main problem was the cooling of the processor, but it was solved well enough for the ASC to be used until 1985. In the 1970s, he led the development of the TMS320 signal processor, which came out in 1983. The TMS320 and subsequent digital signal processors were revolutionary and had a significant impact in the field.

After twenty-five years with Texas Instruments, Harvey left industry to teach in academia. As the Ernest Cockrell, Jr. Centennial Chair in Engineering in the Department of Electrical and Computer Engineering at The University of Texas at Austin from 1984 to 1999, he advised and mentored numerous undergraduate, master's, and Ph.D. students. Harvey developed enduring relationships with his students, who valued his counsel and stayed in touch with him after they graduated and moved around the world. At the University, he taught courses in computer architecture and wrote three books on the subject, *Computer Architecture and Implementation*, *Memory Systems and Pipelined Processors*, and *Branch Strategy Taxonomy and Performance Models*. Harvey published more than fifty technical papers and held nine U.S. patents in the field of computer engineering.

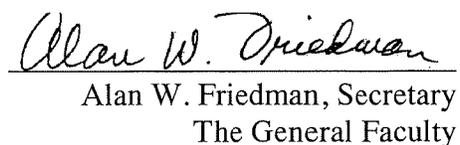
Upon retirement, Harvey was a named Professor Emeritus at UT Austin, and then he and Henrietta moved to Dallas, where he became a visiting professor at Southern Methodist University and UT Dallas. He continued his study and wrote books on the development of early computers, including the British code-breaking computer Colossus, Norden Bombsights, and torpedo data computers developed during the second world war.

In 1984, he received the IEEE Emanuel R. Piore Award. In 1986, he received the Eckert-Mauchly Award, “for major contributions to computer architecture and for pioneering the application of integrated circuits for computer purposes and for serving as architect of the Texas Instruments scientific computer and for playing a leading role in many other computing developments in that company.”

Harvey was a member of the National Academy of Engineering (NAE), a Life Fellow of the Institute of Electrical and Electronics Engineers (IEEE), a Fellow of the Association for Computing Machinery (ACM), and a member of the Charles Babbage Institute.



Gregory L. Fenves, President
The University of Texas at Austin



Alan W. Friedman, Secretary
The General Faculty

This memorial resolution was prepared by a special committee consisting of Professors Lizy K. John, Earl Swartzlander Jr., and Ahmed Tewfik.