

Citation:

Lynn Conway Doctor of Science

Lynn Conway, University of Michigan professor emerita of electrical engineering and computer science and internationally recognized transgender advocate, is renowned for her seminal contributions to computer science, including development of a unified structural methodology that demystified the silicon chip design process and triggered the very-large-scale integration (VLSI) revolution in Silicon Valley. Born in Mount Vernon, New York, Professor Conway, named and raised as a boy, identified as a girl from a young age. After earning her B.S. (1962) and M.S.E.E. degrees (1963) from Columbia University's School of Engineering and Applied Science, she joined IBM Research. In 1965, she invented dynamic instruction scheduling (DIS), a method to issue multiple out-of-order instructions per machine cycle, a fundamental breakthrough in computer architecture. In sharing her personal story, Professor Conway tells how IBM fired her in 1968 as she began gender transition. After her transition, she covertly established a new identity and became a successful woman engineer, working first at Memorex Corp. and then at Xerox Palo Alto Research Center, where she did her VLSI systems work. Many thousands of chip designers learned their craft from *Introduction to VLSI Systems* (1980), which she co-authored with California Institute of Technology professor Carver Mead. Later, as assistant director for strategic computing at the Defense Advanced Research Projects Agency, she created the meta-architecture and led the planning of the Strategic Computing Initiative, a major research program aimed at building a technology base for the development of machine intelligence. Professor Conway joined U-M's faculty in 1985, where her research focus was visual communications and control. As an associate dean in the College of Engineering, she contributed to numerous research and instructional initiatives, including the building of the Media Union, and retired from the University in 1998. The following year, as computer historians began uncovering her role in DIS development, she decided to come out and share her transgender history. Since then, she has worked to protect and expand the rights of transgender people and to illuminate and normalize gender variance and gender transition processes through her widely accessed website. Professor Conway, who lives with her engineer husband Charles Rogers, is a fellow of the Institute of Electrical and Electronics Engineers (IEEE), a fellow of the American Association for the Advancement of Science, and a member of the National Academy of Engineering. Among other accolades, she is the recipient of the Franklin Institute John Price Wetherill Medal, the University of Pennsylvania Harold Pender Award, the Secretary of Defense Meritorious Achievement Award, the Society of Women Engineers National Achievement Award, the Computer Pioneer Award of the IEEE Computer Society, the Computer History Museum Fellow Award, and the James Clerk Maxwell Medal of the IEEE and the Royal Society of Edinburgh.

Professor Conway, you have helped shape our information age through your strong leadership in the computer science field, your numerous groundbreaking contributions to computer architecture and microelectronics design, and the education of computer scientists and engineers. Through your advocacy and by courageously sharing your story, you have enhanced awareness of gender variance and transgenderism, and shown young people mis-gendered at birth that they can excel at the highest levels, personally and professionally. The University of Michigan proudly presents to you the honorary degree, Doctor of Science.

December 16, 2018