**Lynn Conway Biosketch:**

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Lynn Conway is a true heroine of modern engineering; her works have changed the world.

During the late 1970’s, Conway restructured and elegantly simplified the then-mysteriously-complex methods for designing microelectronic silicon chips, enabling engineers to quickly master the vital new craft. Exploiting the emerging personal computers and laser printers at Xerox Palo Alto Research Center, she became principal author and guided the rapid experimental evolution of *Introduction to VLSI Systems*, the foundational text of the new field.

While visiting at MIT in 1978, Conway pioneered the teaching of the new methods and created an infrastructure for rapid prototyping of students’ project chips, enabling them to quickly validate their designs. The following year she innovated an ARPANET-based e-commerce system, enabling a dozen universities to conduct MIT-like courses and have all student project chips rapidly implemented. The courses spread like wildfire; by 1982-83 VLSI chip design was being taught in 112 universities all around the world.

As thousands of adventurous young entrepreneurs, engineers and computer scientists began exploring the vast new world of innovative microelectronics, the paradigm shift shook the industry to its foundations. The modern day “fabless design + silicon foundry” industry model had taken root, in Silicon Valley and beyond.

The ongoing productions of Conway’s methods are all around us, deeply embedded in our personal computers, tablets and smartphones, in our automobiles, GPS’s and entertainment systems, in our Wi-Fi’s and internet infrastructure. We are all beneficiaries.

Conway went on to serve as Assistant Director for Strategic Computing at DARPA, then to the University of Michigan as Professor of Electrical Engineering and Computer Science, and Associate Dean of Engineering. Along the way, she received several major awards for her work, including the Wetherill Medal of the Franklin Institute, the Pender Award of the Moore School, the Computer Pioneer Award of the IEEE Computer Society and election to the National Academy of Engineering.

However, Conway studiously avoided the limelight after making her stunning contributions to VLSI microelectronics, terrified of again losing her employment. The reason? She had been fired by IBM back in 1968 when she undertook her gender transition, early in her career. She’d had to start all over again in a secret new identity, and needed to keep the secret. The result? As the decades passed, no one could explain how the VLSI revolution had actually happened. Everyone simply took it for granted and ran with the results.

Upon retiring in 1999, Conway quietly came out and began evolving a major transgender informational website, employing many of the social-learning-methods that framed her engineering research. Translated into many languages, *lynnconway.com* has since become a beacon of hope and encouragement for trans-people worldwide. Active in international trans-advocacy, Conway also played a major role in widely illuminating and socially displacing the psychiatric pathologization of natural gender variance.

As the social climate began to improve, Conway began hoping to someday explain her work. She finally got her chance in the fall of 2012, when the Institute of Electrical and Electronic Engineers published her “Reminiscences of the VLSI Revolution” in a special-issue of *Solid-State Circuits Magazine* honoring her contributions.

Reaction was swift as Conway’s high-technology peers began to grasp the stunning story. By the spring of 2014, Conway had received the Fellow Award of the Computer History Museum and an Honorary Doctorate from Illinois Institute of Technology. And we’ve only just begun to decode the deep lessons encoded in her story.

Born in 1938, growing up in White Plains, N.Y., educated at MIT and Columbia University, Lynn Conway is now Professor of EECS Emerita at the University of Michigan. She lives with her husband Charlie on a 23 acre homestead in rural Michigan. They’ve been together since 1988.