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IBM Apologizes For Firing Computer Pioneer For Being Transgender...52 Years Later

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Transportation

Auto industry exec, entrepreneur, former Deloitte, Stony Brook grad.

Lynn Conway receives an honorary doctorate and gives the Winter 2018 Commencement Address at the ... [+]   DARYL MARSHKE, MICHIGAN PHOTOGRAPHY

You've likely never heard of 82-year-old computer scientist Lynn Conway, but her discoveries power your smartphones and computers. Her research led to successful startups in Silicon Valley, supported national defense, and powered the internet.

Long before becoming a highly respected elderly professor at the University of Michigan, Conway was a young researcher with IBM IBM -0.8%. It was there, on August 29, 1968, that IBM's CEO fired her for reasons that are illegal today. Nearly 52 years later, in an act that defines its present-day culture, IBM apologized and sought forgiveness.

On January 2, 1938, Lynn Conway's life began in Mount Vernon, NY. With a reported IQ of 155, Conway was an exceptional and inquisitive child who loved math and science

during her teens. She went on to study physics at MIT and earned her bachelor's and master's degrees in electrical engineering at Columbia University's Engineering School.

In 1964, Conway joined IBM Research, where she made major innovations in computer design, ensuring a promising career in the international conglomerate (IBM was the 7th largest corporation in the world at the time). Recently married and with two young daughters, she lived a seemingly perfect life. But Conway faced a profound existential challenge: she had been born as a boy.

Having struggled with her gender identity since childhood, Conway had made a failed attempt at transition in the late 1950s while a student at MIT. In 1967, she learned of the pioneering gender-transition work of Manhattan-based doctor Harry Benjamin (a partner of famed sexologist Alfred Kinsey). Conway sought Dr. Benjamin's help and began the life-changing transition from male to female.

Despite cultural clichés at that time, both her immediate family and IBM's divisional management were accepting and supportive. However, when IBM's Corporate Medical Director learned of her plans in 1968, he alerted CEO Thomas J. Watson, Jr., who fired Conway to avoid the public embarrassment of employing a transwoman.

The termination turned Conway's life upside down. The loss of income and looming inability to support her family shattered their plans for a quiet divorce with visitation rights. To worsen matters, California's Social Services threatened her with a restraining order if she ever attempted to see her children.

Conway was devastated by these unexpected events. While she was coherent and decisive in recognizing that she was born into the wrong gender, society and the government were treating her as if she were a mentally deranged outlaw. "I'd begun a deeply dangerous traverse and wasn't sure I'd ever get across," says Conway.

Even so, she pressed on with her social, hormonal, and surgical transition, and began seeking employment as a woman in a secret new identity in early 1969. First finding work as a contract programmer, Conway rapidly ascended the career ladder. By 1971, she was working as a computer architect at Memorex Corporation. Her rising reputation led to her recruitment by the (soon to become famous) Xerox Palo Alto Research Center (PARC) in 1973.

In 1977, while leading PARC research into enhanced methods for computer chip design, Conway began co-authoring a book on the methods with Carver Mead, a professor at Caltech. On sabbatical from PARC as a visiting professor at MIT, she created and taught an experimental course on Very Large Scale Integrated (VLSI) chip design based on the draft of her textbook with Mead.
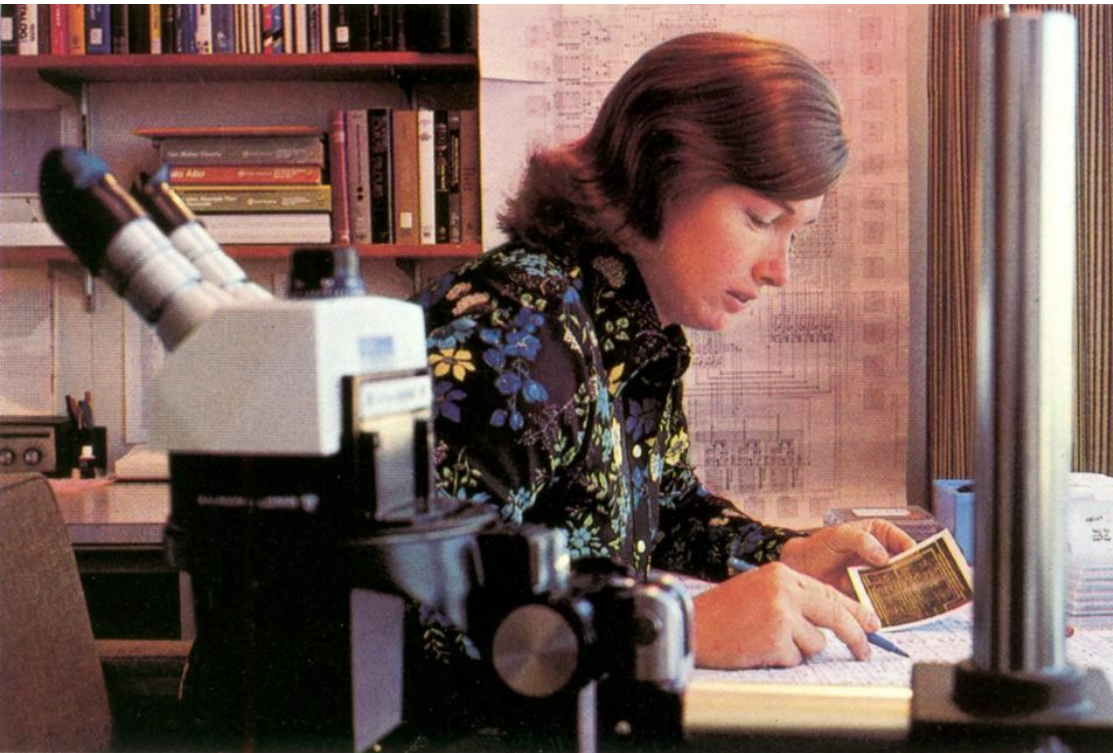
Lynn Conway at Xerox PARC, 1977   LYNN CONWAY

Published in 1980, *Introduction to VLSI Systems* set down fundamental principles for future microprocessor chip design in the era of Moore's Law. Conway's VLSI research at Xerox PARC and her textbook and teachings at MIT created standards that fueled many of the Silicon Valley startups in the 1980s.

". . . Among [Conway's] many foundational contributions to computer architecture are the scalable digital design rules she invented for silicon chip design and the ARPANET e-commerce infrastructure she developed for rapid chip prototyping – thereby launching a paradigmatic revolution in microchip design and manufacturing . . .," explains John L. Anderson, President of the National Academy of Engineering (NAE).

In 1983, the Department of Defense recruited Conway to join the Defense Advanced Research Projects Agency (DARPA) as Assistant Director for Strategic Computing. Spearheading DoD research into machine intelligence technology, she received the Secretary of Defense's Meritorious Achievement Award from Secretary Caspar Weinberger for her work.

1997: Lynn Conway converses with Brig. Gen. Stephen R. Lorenz, USAFA Commandant Brent Scowcroft, ... [+]   LYNN CONWAY / USAF

Conway then brought her skills and insatiable intellectual curiosity to academia. In 1985, the University of Michigan hired her as a professor of computer science and electrical engineering and associate dean of its engineering school. She spent 15 years with the university, helping its engineering college become one of the foremost in the nation, retiring in 1999 as professor emerita of electrical engineering and computer science.

For over 30 years, from 1968 onward, Conway never revealed she was transgender (excepting close friends, relatives, HR offices, and security-clearance agencies). However, in 1999, when computer historians began investigating her early innovations at IBM, she foresaw the inevitability of public outing. With the support of her husband Charlie (they've been together since 1987) she chose to reveal her gender history online, including the reason she had left IBM.

Many of Conway's colleagues were amazed by the disclosure, never suspecting Conway was transgender. In 2000, her former Michigan colleague Charles Vest, by then President of MIT and a member of IBM's board of directors, relayed the story to Louis V. Gerstner, IBM's CEO at the time. Gerstner was appalled at what IBM had done but was unable to bring about a resolution. IBM avoided the issue for the next two decades.

Freed from fear of exposure, Conway gained a strong voice in transgender activism, regularly sharing the story of overcoming adversity after IBM's firing. She jokingly says, "From the 1970s to 1999, I was recognized as breaking the gender barrier in the computer science field as a woman, but in 2000, it became the transgender barrier I was breaking."

Since then, she has won awards from many advocacy organizations, including being named one of the "Stonewall 40 trans heroes" by the ICS and NGLTF in 2009. She was

also recognized by *Time Magazine* in 2014 as one of the most influential LGBTQ figures in American Culture.

In recent years, the scope of Conway's scientific and engineering contributions also began gaining wider retrospective attention. "Since I didn't #LookLikeAnEngineer, few people caught on to what I was really doing back in the 70s and 80s," says Conway.

As NAE President John L. Anderson says, "NAE member Lynn Conway is not only a revolutionary pioneer in the design of VLSI systems . . . But just as important, Lynn has been very brave in telling her own story, and her perseverance has been a reminder to society that it should not be blind to the innovations of women, people of color, or others who don't fit long outdated – but unfortunately, persistent – perceptions of what an engineer looks like."

As awareness spread, so did recognition. Conway received the prestigious James Clark Maxwell Medal of the IEEE and the Royal Society of Edinburgh in 2015 and was awarded honorary doctorates from Illinois Institute of Technology (2014), University of Victoria (2016), and the University of Michigan, Ann Arbor (2018), where she also gave the Winter 2018 Commencement Address.

But while IBM knew of its key role in the Conway saga, the company remained silent. That all changed in August 2020.

When writing an article on LGBTQ diversity in the automotive industry, I included Conway's story as an example of the costly consequences to employers that fail to promote an inclusive culture. I reached out to IBM to learn if its stance had changed after 52 years.

To my surprise, IBM admitted regrets and responsibility for Conway's firing, stating, "We deeply regret the hardship Lynn encountered." The company also explained that it was in communication with Conway for a formal resolution, which came two months later.

In early October, IBM emailed its employees an invitation to attend a virtual event titled "Tech Trailblazer and Transgender Pioneer Lynn Conway in conversation with Diane Gherson." Gherson was IBM's Senior Vice President of Human Resources and reported directly to its CEO. The details were sparse, with many IBM employees believing the event would be a discussion of Conway's discoveries in computer science. Over 1,200 IBM employees attended online.

The event began with a heartfelt apology from Gherson for Conway's firing. "Diane delivered the apology with such grace, sincerity, and humility. Lynn was visibly moved,"

explained Anna Nguyen, an Advisory Software Engineer with IBM who attended the session but does not speak on behalf of IBM. "I struggled to hold back tears," says Conway.

Avrind Krishna, IBM's CEO, and other senior executives had determined that Conway should be recognized and awarded "for her lifetime body of technical achievements, both during her time at IBM and throughout her career."

Dario Gil, Director of IBM Research, who revealed the award during the online event, says, "Lynn was recently awarded the rare IBM Lifetime Achievement Award, given to individuals who have changed the world through technology inventions. Lynn's extraordinary technical achievements helped define the modern computing industry. She paved the way for how we design and make computing chips today — and forever changed microelectronics, devices, and people's lives."

The company also acknowledged that after Conway's departure in 1968, her research aided its own success. "In 1965 Lynn created the architectural level Advanced Computing System-1 simulator and invented a method that led to the development of a superscalar computer. This dynamic instruction scheduling invention was later used in computer chips, greatly improving their performance," a spokesperson stated.

The virtual event, along with the accompanying apology and award, was widely acclaimed by those in attendance. "Instead of just being a resolution of what had happened in 1968, it became a heartfelt group celebration of how far we've all come since then," says Conway.

Lynn Conway rechanneled discrimination, hatred, and ignorance into a positive force that benefited others. She advanced technology, protected our country, and most notably made our society more inclusive. Conway admits IBM's firing forced her to become a stronger person than she thought was possible. And its apology, while 52 years in the making, provided her with closure to an event that shaped her life.

As for IBM, its apology to Conway is a testament to its current culture. IBM engineer Anna Nguyen explains, "I was already proud of present-day IBM...The very public apology to Lynn made me even prouder."
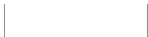
As for everyone else, Conway's impact on society and technology makes her a hero for us all.

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IBM apologizes for firing computer pioneer over 50 years ago.

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