

## Women in Technology: Growing the Ranks

A diverse workforce gives Cisco an advantage. Summarizing decades of research, Scientific American notes: “The fact is that if you want to build teams or organizations capable of innovating, you need diversity.”<sup>1</sup> And according to McKinsey, companies in the top 25 percent for gender diversity are 15 percent more likely to have financial returns above the median for their industry.<sup>2</sup>

For ideas on how to encourage girls to work in technology—and women to advance their careers—we caught up with three of our engineers at different stages in their careers:

- Michele Guel, Cisco Distinguished Engineer, joined Cisco in 1996. She’s a cybersecurity expert for the Internet of Things.
- Judy Priest, Cisco Distinguished Engineer, joined Cisco in 2003. She specializes in applied electromagnetics, data center, and blockchain.
- Nikita John, a software engineer, joined Cisco as an intern in 2010 and is now a Level 2 engineer with Cisco IT.



### Sparking the flame

All three women became interested in science and technology in their early teens. Judy Priest decided to become an engineer in middle school, following the example of her father and brothers. “I always loved math and science, and constantly took things apart to see how they worked,” she says. As a ninth grader in India, Nikita John became hooked on software when she was selected for a two-week hands-on coding course run by a technology services and consulting firm. Michele Guel always excelled at science, and branched out to technology as a college freshman. She took a FORTRAN class at the suggestion of her karate teacher, who owned a startup. Realizing she had a natural aptitude for programming, she worked as a full-time programmer for the karate instructor throughout college.

### Early influences, positive and negative

John, the youngest in the group, received enthusiastic support for her career choice from her family and high school career counselor. Her mother, who had graduated from engineering college but didn’t work outside the home, loved the idea of her daughter becoming an engineer. Priest’s family encouraged her plans to study engineering—but not as strongly as they did for her brothers. Her high school AP Physics teacher actively discouraged her despite her stellar grades and National Merit Scholarship. “He told me I’d never become an engineer because I’d get pregnant and drop out of college,” she says. Guel made her way into technology without any outside encouragement. “You could say I succeeded against the odds,” she says.

<sup>1</sup> Katherine W. Phillips, [How Diversity Makes Us Smarter](#), republished in 2017

<sup>2</sup> McKinsey, [Diversity Matters](#), 2015

## Into the workplace

Both Guel and Priest encountered supporters and doubters at various points in their careers. At one of Priest's first jobs, a manager criticized her for wearing dresses and heels. "He said I wasn't good enough to be that 'flamboyant,'" she says. On a business trip to Japan in the early 1990s, the local general manager would not exchange business cards. When she gave a presentation on electromagnetics the next day, that manager and his team directed their questions to her male manager—who referred every question back to Priest. "I realized then that as an engineer, you have to love the idea more than you love your own ego, and admit that sometimes you aren't the right person to deliver the message," she says.

As one of the first U.S. cybersecurity experts, Guel built a respected reputation both inside and outside her company, NASA Ames. She taught a class on cybersecurity to the FBI and collaborated with the Australian police to catch a hacker. Ironically, over the last few years she's experienced more prejudice than she did earlier in her career. For example, conference attendees sometimes express surprise that she's an engineer and not an admin—an experience that Priest has shared. "These kind of assumptions can be frustrating, which is why community is so important," Guel says.

John, who entered the workforce three decades after Guel and Priest, believes she is perceived and treated the same as her male peers. She was one of 12 female and 1 male engineers that Cisco hired from her college graduating class. "That sent a strong message to me that Cisco values women," she says.

## To manage people—or not

Like any group of engineers, the three women differ in how much they enjoy management. John looks forward to becoming an IT architect and managing a team. "I like technology, and I also like interacting and collaborating with people," she says.

As a technical manager at NASA Ames, Guel hired, fired, and managed staff while continuing to work on technical projects. These days she prefers being an individual contributor. "I like mentoring and I like training people to figure out the best way to make things work," she says. "But I don't like managing." Priest, who managed 300 people at one point, also enjoys her work as an individual contributor. "Don't confuse leadership with management," she says. "I found that when I went too high up on the management ladder, I lost touch with the technology—which is what I really love," she says. Guel and Priest belong to an elite group of just 180 Cisco Distinguished Engineers worldwide.

## Advice for other women technologists

"In technology careers, nothing speaks louder than results," says Priest. "When you consistently produce results and design things that work, you become known as an expert. Once you become an expert, you develop a longer lens into the future, and you become a strategist."

Guel agrees. "Early in my career, my sense was that as a woman I had to work twice as hard and be twice as smart," she says. She worked as a Grade 12 Engineer for 12 years before being promoted to Distinguished Engineer in 2011. "Cisco has done an excellent job in recent years—for example, by making sure there's equal pay," she notes.

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—Judy Priest, Distinguished Engineer

John recommends becoming the first to master new technologies. "To advance, we shouldn't be content with what we know," she says. "I'm in a race with technology. The last two years I've worked on seven technologies." She also suggests that companies pursue and hire women technologists who have taken time off after having a baby. We do that, assigning a technical mentor to these engineers to catch them up on the technology advances they may have missed.

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—Nikita John, Cisco IT Engineer Level 2

John also counsels that career growth requires not just learning new technology, but also learning to ask for what you want. “I used to think that promotions would just come to me if I did my job well,” she says. “Then a speaker at a Cisco Connected Women conference encouraged me to ask for what I want. I might not get what I ask for, but I won’t regret not asking.” John recently asked her manager what she should be doing to be promoted to the next grade. (The answer: take on bigger software modules or a whole project.)

Priest has advice about meshing motherhood and engineering. When pregnant with her first child, she briefly considered taking a less demanding job. “It was a lightbulb moment for me,” she says. “Time with my kids is so precious that it actually raised the bar for what I expect from my job. I needed to do something just as worthwhile and productive.” Cisco’s daycare program is one reason Priest joined the company.

Our engineers agree that formal communities are essential—both to attract women engineers and to help them advance. “If you’re one of two women on the team, you’re not part of a community,” Guel says. “There’s power in numbers. Support in numbers.”

Favorite Cisco programs include:

- *Mentoring programs.* Mentors can coach new engineers on challenges from managing salary and career discussions to handling inappropriate comments. Guel, an avid mentor, believes having a mentor or sponsor is important for women at all stages of their careers. “As a mentor, it’s exciting to see people grow from not being so sure of themselves, to speaking at their first conference, to taking on leadership roles,” she says. A hardware engineer just eight months on the job asked Guel to be her mentor at a Women of Impact conference. The engineer had outstanding technical skills—having already filed for a patent—but needed help talking to her manager about career direction.
- *Shadowing programs.* Before accepting a new position at Cisco, engineers can work with someone who has that job to see what it’s really like.
- *Cisco Connected Women* and *Women of Impact* conferences. Attendees share ideas on how to get ahead.
- *Cisco Tech Talks*, given by engineers, for engineers. “You can spend an hour to see if you’re interested in learning a new technology before investing in a whole semester of classroom work,” Priest says.
- *Women in Science and Engineering (WISE)* brings together women engineers from different backgrounds, organizing technical and non-technical talks about current trends.
- *Grace Hopper Celebration of Women in Computing.* The Anita Borg Institute runs this annual three-day program.

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—Michele Guel, Distinguished Engineer

### Attracting more women to technology: start in middle school

How can companies like Cisco attract more women, building a more diverse workforce that fosters innovation? The three interviewees agree that middle school is the best time to expose girls to technology careers. “There are many exciting career options now,” Priest says. “We want to catch the girls who are inherently interested.” Guel enjoys meeting with middle school girls who Cisco brings to campus. “Many have never heard of the Internet of Things and are very excited to realize the difference they can make by working in the field,” she says.

Formal mentoring programs for women early in their careers are also valuable. “When I’m approached by people who want me to mentor them, I’m inspired by the excitement in their eyes,” Priest says. “These programs are good for the mentee and also good for the mentor. Before you know it, you’ve become a leader.”

To help get girls excited about careers in technology, consider becoming involved in the following organizations, all recommended by our interviewees and other members of Cisco Connected Women:

- [Anita Borg Institute](#)
- [Black Girls Code](#)
- [Girls in Tech](#)
- [Girls Power Tech Days](#), a Cisco mentoring initiative
- [Girls Who Code](#)
- [Ladies Learning Code](#): Digital literacy for women and youth in Canada
- [InfraGard Cyber Camp](#) for high-school students in North Carolina
- [Society of Women Engineers K-12 outreach](#)
- [Women in Technology](#)

### **For More Information**

[Cisco IT Brief Women in Tech Growing the Ranks](#) - (Spanish)