

From wannabe high school math teacher to Regents Professor

How Stephanie Forrest ‘overcorrected’ and received ASU’s highest faculty honor

By Scott Bordow, ASU News
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It’s a bit difficult to describe the work [Stephanie Forrest](#) does as director of Arizona State University’s [Biodesign Center for Biocomputation, Security and Society](#).

Her ASU biography lays it out this way: “She is a computer scientist who studies the biology of computation and computation in biology, including biological modeling of immunological processes and evolutionary diseases, cybersecurity, software engineering and evolutionary computation.”

Got it?

What is clear, according to Ross Maciejewski, director and professor at the School of Computing and Augmented Intelligence, is that Forrest has been a pioneer in her field and is well deserving of being named one of [four 2026 Regents Professors](#).

ASU’s highest faculty honor recognizes sustained scholarship, national and international distinction, and contributions that have significantly advanced their fields and the university’s mission.

“Stephanie is well known across the country,” said Maciejewski, who wrote a letter of support for Forrest. “She’s been heavily involved in computing leadership for the majority of her career.

“I was an associate professor when she moved here, and I remember a colleague came up to me, one that I didn’t think had any connection to Stephanie, and he said, ‘Wow, you guys hired such a great person.’ It’s because she’s so connected in the computing community over decades of work.”

The Regents designation, which Forrest called “totally surprising and wonderful,” honors a career that Forrest never expected. She grew up on the outskirts of Bellingham, Washington, living in a home without a television and spending most of her time playing in the woods with her siblings.

She grew up in the public school system and quickly fell in love with math, so much so that she envisioned herself becoming a high school math teacher.

“I kind of overcorrected,” Forrest said with a laugh.

There were times throughout her career, Forrest will admit, that she thought she would still love teaching math to high school students. But when her daughter was in middle school, she went to parents’ night, saw how “young and enthusiastic and funny” the teachers were and said to herself, ‘Oh, man, I’m not going to be good at this.’”

So, how did a wannabe math teacher become one of the country’s leading experts in computational biology?

Perhaps this would be a good time to describe computational biology and Forrest’s revolutionary work in the field.

Essentially, Maciejewski said, since the 1990s, Forrest has taken insights from biology and applied them to computer concepts.

“She talks about the body’s defense mechanisms, like how the body defends itself from disease,” Maciejewski said. “What could you learn about that in terms of teaching a computer system to defend itself from viruses?”

“When you think about the body, it has an immune system with white blood cells and antibodies, which are looking for foreign pathogens in your body. In cybersecurity, you have software and hardware. So, you want to have some underlying computation that’s acting as white blood cells and looking for potential malicious actors. Stephanie has worked on computer programs that are looking for things that are not supposed to be in your network or system.”

In addition, Forrest has conducted several computational modeling projects in biology, looking at immunology and evolutionary diseases such as influenza and cancer.

How Forrest got to this place is, as she admitted, a series of random events.

She only heard of St. John’s College, a private liberal arts college in Annapolis, Maryland, when the older brother of a high school friend mentioned it. Forrest leafed through a big book her high school had on different colleges and universities, read about St. John’s and thought, “Oh yes, this is what I’m going to do.”

It was at St. John’s that Forrest, the math devotee, fell in love with biology as well.

“I had a biology class that was phenomenal,” she said. “We spent a semester studying embryology and development and reading the original works that led to modern biology, and then we spent an entire semester doing dissection and genetics experiments. Looking back on it, it was incredible.”

It wasn’t until Forrest’s senior year, however, that she figured out how to combine her dual passions into a career. She wrote her senior thesis on Gödel’s Incompleteness Theorems, formulated by Kurt Gödel in 1931. The theorems revolutionized logic by demonstrating that any consistent formal system capable of expressing basic arithmetic will inevitably contain statements that are true but unprovable within that system.

“That was, in a way, my path into computing,” Forrest said. “And in graduate school, I became interested in the deep connections between biology and computation.”

A random conversation in 2009 also impacted her career. She was at a committee meeting for a large [Multidisciplinary University Research Initiative](#), when in the lunch line she met a young professor from the University of Virginia who worked in software engineering and programming language.

“I thought, ‘Software engineering, the world’s most boring topic,’ Forrest said. “But the (MURI) meeting was even more boring, so I said, ‘Oh, that sounds really interesting, let’s have a conversation.’”

Soon, they were studying software from a biological point of view.

“For example, if you make a random change to a piece of software, how likely is it to change the behavior of the program?” Forrest said. “We think a computer program is this glass house of cards. If you touch it, the whole thing will fall down. Turns out that’s not true.

“It’s much more biological in that many random changes have no observable effect, similar to mutational robustness in biology. This is just one piece of evidence that has convinced me that software and computing are becoming more like biology over time.”

Forrest’s list of accomplishments is, as one might imagine, lengthy and impressive, including a one-year stint as senior science advisor for cyber policy at the U.S. Department of State, multiple national awards and dozens of research articles.

Forrest also continues to mentor students across the country, including undergraduates, graduate students and PhD students, 26 of whom have graduated with the help of Forrest’s mentorship.

“She’s really working to mentor that next generation of students,” Maciejewski said.

One of those students is Sameera Shah, a senior at ASU majoring in computer science. Shah, who is working on a project in which automated program repair methods repair software bugs by automatically suggesting small changes, said she has been motivated by Forrest’s work and encouragement.

“The project I’m working on, she was working on it I think 15 or 20 years ago,” Shah said. “As a college student, sometimes you want to get through things fast or you might be discouraged when you don’t see results.

“But having someone around who’s been in this field for so long and is encouraging you, it’s really inspiring.”

Inspiring and motivating students.

Sounds like Forrest would have made a good high school math teacher after all.

This story originally appeared on [ASU News](#).

Main image



Regents Professor Stephanie Forrest, director of ASU's Biodesign Center for Biocomputation, Security and Society, poses for a portrait outside of the Creativity Commons building on the Tempe campus on Dec. 2, 2025. Photo by Armand Saavedra/Arizona State University