

# Science is a family affair for this ASU grad

By Victor Chambers, ASU News  
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**Editor's note:** This story is part of a series of profiles of notable [fall 2025 graduates](#).

Phoenix native [Christina Flynn](#) was taking one of her master's degree final exams when she went into labor with her son — a child who would ultimately help shape her academic journey. She managed to complete the exam before heading to the hospital, a moment that perfectly reflects an academic journey shaped by personal experiences and unwavering determination.

Flynn's interest in chemistry and engineering was sparked by her grandfather, who designed and patented resin-impregnated varnishes during World War II.

"He used to tell me stories about how chemicals interact to create everything we see around us," Flynn said.

She graduated from ASU with a bachelor's degree in chemical engineering in 2011, followed by a master's in mechanical and aerospace engineering the following year.

Several years later, Flynn began considering a PhD program when she received news that would alter the course of her life.

"My son's pediatrician told me that my son's diagnosis was level 3 autism. The severity of his condition would significantly affect his development and ability to function, as he was beyond the optimal age of currently available therapies," Flynn said. "After trying and failing to prove her wrong, I found my life's calling. I went on an all-consuming passion project to mitigate the pain, challenges and suffering a delayed autism diagnosis brings to other families like mine."

In 2021, she returned to ASU and studied under [James Adams](#) and [Rosa Krajmalnik-Brown](#) at the [Biodesign Center for Health Through Microbiomes](#). Flynn's research focuses on developing a biological urine test for the early diagnosis of autism spectrum disorder (ASD). The technology has been patented through ASU Skysong Innovations and is now licensed for commercial use. Flynn's goal is to offer universal screening for infants between 18 and 24 months to enable early diagnosis and treatment of ASD.

A [Fulton Schools Fellow](#), Flynn plans to bring everything she learned from the [chemical engineering PhD program](#) into the next phase of her career. She now serves as research director at a biotech startup aiming to commercialize the technology she developed at Biodesign.

“Our long-term vision is to shift the perception of autism from being a permanent, lifelong condition to one that can be prevented and managed through early, science-based intervention,” Flynn said. “It’s about giving families hope and giving science a head start.”

Read more about her experience at ASU below.

*Note: Answers are edited for length and clarity.*

**Question: What is it about the Biodesign Institute that interested you?**

**Answer:** Its collaborative, cross-disciplinary approach to turning microbiome science into tangible health solutions. I’m inspired by the institute’s mission to use microbial systems to improve human health and its record of translating discoveries into real-world impact, from diagnostics to therapeutics.

**Q: What’s something you learned here that surprised you or changed your perspective?**

**A:** I was genuinely surprised by how deeply the Biodesign Institute embodies true interdisciplinary approaches, not just as a concept, but as a daily practice. Here, I’ve experienced firsthand how shared curiosity and scientific rigor transcend disciplinary boundaries, creating powerful synergies that have reshaped my understanding of collaborative innovation and changed how I define scientific problem-solving.

**Q: What is an important lesson your mentor at Biodesign Institute has taught you?**

**A:** Professor Krajmalnik-Brown has taught me one of the most transformative lessons of my academic career — that scientific growth begins with curiosity, not perfection. She emphasizes that asking thoughtful questions and truly listening to colleagues often leads to deeper insight than simply providing the “right” answer. Through her mentorship, I’ve learned to challenge my own assumptions, particularly about communication across disciplines. Her fearless commitment to cultivating rigorous, well-rounded scientists has inspired me to value intellectual humility as much as technical mastery.

**Q: What’s the best piece of advice you’d give to those still in school?**

**A:** To let curiosity and passion lead you, even when the path feels uncertain. Every challenge in my PhD journey taught me persistence, empathy and the power of believing your work can make a difference. Don’t be afraid to take the hard path. School isn’t just about getting the right answers, it’s about learning how to ask deeper, better questions and finding meaning in the process of discovery.

**Q: If you were awarded a \$50 million grant for scientific research, what major world issue would you tackle?**

**A:** I would dedicate it to unraveling the microbial and biochemical foundations of ASD and related gut–brain axis conditions that shape the brain. We’ve only begun to glimpse at how profoundly microbial metabolites influence neurodevelopment, behavior and immune function. I would build a global collaborative network to accelerate discoveries that translate directly into early-detection tools and preventive therapies. The ultimate goal would be to shift autism and other gut-brain disorders from frightening diagnoses into conditions we can identify early, so we can understand

their pathophysiological mechanisms and biological roots.

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## Main image



Graduate researcher Christina Flynn aims to shift public perception of autism from a permanent condition to a manageable illness through early, science-based intervention. Photo by Andy DeLisle/ASU