

design is simpler to build than a traditional stellarator. “Without modern computational power, you couldn’t come up with optimized stellarator designs,” says Hsu.

## More challenges

Scheduling breakthroughs for scientific challenges is impossible, says Hsu. But the remaining challenges are increasingly in engineering, he says, and they overlap for the various fusion concepts. Those challenges include mitigating materials damage from neutrons and breeding tritium for deuterium–tritium fusion reactions. Engineering challenges are “a different flavor” from scientific ones, he says, “and investment is a better predictor of progress to come. That is the transition that fusion is trying to enact now.”

Another challenge for achieving commercial fusion energy is education, says Elizabeth Paul, an assistant professor of applied physics at Columbia University who focuses on stellarator theory and computation. “With more private companies involved,” she says, “there is more emphasis on developing the workforce that will feed into companies and run fusion reactors.”

The different fusion approaches each have pros and cons, says Paul, “and it’s not obvious who will be the winner. It makes sense to explore different approaches in parallel.”

“It’s healthy to have a competition of ideas,” says Uri Shumlak, chief science officer and co-founder of Zap Energy, the milestone company that uses Z pinch to create fusion. “If any one of us is successful, having a carbon-free energy source will benefit society at large.” **PT**

# Astrophysics influencer uses social media to break science stereotypes

By **Toni Feder**

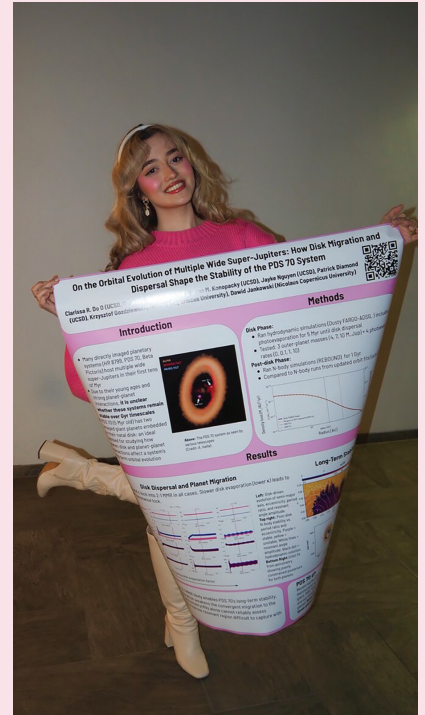
**A** scientist can wear nail polish, use makeup, and dress fashionably—and be taken seriously. That’s the message that @thatastrogirlie conveys to her tens of thousands of followers on Instagram and TikTok.

Thatastrogirlie is Clarissa Do Ó, an astronomy postdoc at Caltech who is “passionate about exoplanets” and loves pink. In the photo, she holds up a poster she presented in February at a conference on high-contrast imaging. “I want to show that a scientist can look like anyone and have many interests,” she says.

Do Ó credits childhood visits with her father to the planetarium in São Paulo, Brazil, for sparking her love of science. After high school, she came to the US to continue her studies, earning her bachelor’s degree from the University of California, Santa Barbara, and her PhD from UC San Diego.

At Caltech, Do Ó tests potential instrument design architectures for the NASA flagship space telescope *Habitable Worlds Observatory*, currently planned for launch in the 2040s. The telescope’s goal is to discover planets that are as much as 10 billion times fainter than their stars, she says. “To image Earthlike planets around Sun-like stars, the telescope will need picometer-level stability.” On a separate project, for the *Nancy Grace Roman Space Telescope*, she charts the orbits of known exoplanets to plan for the first attempts to image exoplanets in reflected light.

After defending her PhD thesis in summer 2025, Do Ó posted a short video about the day on Instagram. “It showed my outfit, which I chose to feel comfortable and confident,” she says. By the next morning, there were about 50 000 views.



(Photo courtesy of Clarissa Do Ó.)

That was the start of @thatastrogirlie: “The public is interested in what a science research career looks like,” says Do Ó. “They had so many questions: How long did it take? What will you do next? And they liked that I showed my personality and my femininity. I realized that I could take those two aspects to broaden access to science.” Most of Do Ó’s followers are women aged 18 to 24, she says, and many are interested in science—not only astronomy.

“Every time I make a video,” Do Ó says, “I think about younger me. I think younger me would have liked to see both the life of a scientist and the excitement about fashion and other things.” **PT**