

NEWS

# *Spectrum* Launch: Transitioning to industry with Hien Zhao

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When Hien Zhao began her career in neuroscience research, she knew she wanted to focus on finding treatments for neurological conditions — including dementia, which affects several people in her family.

As a graduate student, she came to appreciate how basic research can improve people's lives. But at the same time, she studied mouse models of Alzheimer's disease, and her own work felt far from clinical translation, Zhao says. "I wanted to participate in the process that brings a drug into the clinic."

Now she is doing just that, as executive director of neurology research at **Ionis Pharmaceuticals**, a biotech company based in Carlsbad, California, where she works to apply antisense technology to mouse models of Parkinson's disease and other conditions.

Zhao spoke with *Spectrum* about her career path, the highs and lows of working in industry, and the goals that keep her motivated.

*The conversation has been edited for length and clarity.*

***Spectrum:* When did you decide to make the jump from academia to industry?**

**Hien Zhao:** My Ph.D. lab was really small, and the principal investigator was just starting the lab. We had to constantly write grants and try to get funding. And even though I was not writing the grants myself, I was generating a lot of data that went into them. That's when I realized that grant writing wasn't my thing. I had the sense that I wanted to be involved in bringing drugs to the clinic. It was kind of a fuzzy idea, but it was clear to me then that I didn't want to go the academia route.

**S:** You still did a postdoc after that. What did you see as the benefit?

**HZ:** I really value that postdoctoral training — it was really formative, at least for me, in my path toward becoming an independent researcher. I learned a ton in my Ph.D. work, but the postdoc was actually when I drove the projects myself and had a lot of independent thoughts about how I could move the work forward. And I think that was really helpful when I started at Ionis, because at a company like this, you do have some guidance, but a lot of it is on you to execute and drive projects.

**S: What do you think was the biggest challenge in moving from academia to industry?**

**HZ:** I came from a postdoc lab that was ginormous, and when I started at Ionis in 2013 it was still really small, so that was the biggest shock to me at the time. Different companies have different sizes and structures. At Ionis, we have to do a lot of things ourselves. We don't have access to animal models, for example. And even just getting antibodies — everything has to be commercially available.

The other difference is that industry has really tight objectives, timelines and deliverables that we have to meet annually. You have to make sure that you do everything in your capability to meet those goals.

**S: What does a typical day look like for you now?**

**HZ:** I'm kind of removed from the lab now because I've been with Ionis for quite some time. I have people that work for me, and I do project management. So it depends on the day — some days we have one-on-one meetings to go over the projects, and other days I'm reading the literature and seeing where the field is or putting together presentations for meetings. I also look at the data my team generates and try to understand what it means and figure out what we can do next.

**S: What does success look like for someone in your current role?**

**HZ:** Because we have objectives that we set out every year, we'll try to score on those goals. But sometimes the science just doesn't cooperate. And so, even just invalidating a target — that's also success. Because it helps us avoid focusing on things that may not be promising.

Ultimately, though, all of my projects have the goal of finding drugs that we could enter into the clinic and use to treat patients. It's a long journey, as I find. But it's also rewarding, and that's why I'm still here. You find solutions to the challenges, and you become creative. And then, hopefully one day, the drug will get to the clinic. That's what keeps me going.

**S: What advice do you have for early-career researchers who are considering moving to industry?**

**HZ:** An internship is a great way to explore what it's like to be in industry. A lot of companies have

these opportunities now — internships for undergrads and graduate students, or even fellowships for postdocs. It could be short — three to six months — but it can help you get a flavor of whether this is the right path.

### Jobs, trainings and funds:

- The International Society for Autism Research (INSAR) is hosting a four-week series of presentations, "**Shaping the Future of Autism Research: A Global Perspective**," which begins 6 July.
- Recent undergraduates can apply now for the **New York Genome Center's Early Career Development Program** — a two-year full-time position at the center that begins in June 2024.
- Janelia Research Campus in Ashburn, Virginia, is **hiring imaging experts** to work on a number of projects.

### Recommended resources:

Still curious about making the move to industry? Jonathan Bowen, medical lead for hemato-oncology at the pharmaceutical company Sanofi, spoke with *Nature* **about his career path**.

When it comes to brainstorming about his lab's future, **Oscar Marín**, professor of neuroscience at King's College London in the United Kingdom, has a winning approach:

I started doing a personal away day 5 years ago. A whole day to think about where the lab is now and where it should be in 5 years. Highly recommended. Today my office was **@royalsociety** and the patios **@Ham\_Yard** hotel and **@LRB** bookshop, with a pit-stop at Balcone. Outstanding day. **[pic.twitter.com/RKtQZ8IKn9](https://pic.twitter.com/RKtQZ8IKn9)**

— Oscar Marín (@MarinLab) **June 14, 2023**

- *Nature* seeks postdoctoral researchers to participate in a **global survey** about how cost of living, stress, and other factors affect scientists at this stage of their careers.
- A working group at the National Institutes of Health recommends research institutions hire fewer postdoctoral researchers in order to increase pay for those positions, according an **article** in *Science*.

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what topic we should cover next? Send them to [angie@spectrumnews.org](mailto:angie@spectrumnews.org).

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