

# Work


 Your story

 Send your careers story  
 to: [naturecareerseditor@nature.com](mailto:naturecareerseditor@nature.com)

## TAKE THE LEAP INTO INDUSTRY

Landing that first job outside academia requires planning, homework and networking – and a bit of soul-searching. **By Spoorthy Raman**

**P**lant physiologist Melanie Zeppel had heard that hard work, a good publication list and securing highly competitive postdoctoral research fellowships would guarantee a successful career in academia. Despite having it all, a faculty position eluded her for 12 years after her PhD.

Frustrated with the wait, Zeppel, who is in Sydney, Australia, decided to look at emerging fields with job opportunities outside academia, such as data science. Leaning on her knowledge of statistics, she took online courses, steeping herself in machine-learning exercises. It paid off: in 2020, she was offered a data-scientist position at a big Australian bank. Now in her third industry job as a soil-carbon data scientist at New Forests, a nature-based investment-management company in Sydney, Zeppel says that her work-life balance is much better than it was in academia.

If numbers tell a story, Zeppel's is no exception. In 2021, Australia had nearly 185,000 PhD graduates, up from 135,000 in 2016. But the number of academic positions had shrunk – falling from 54,086 in 2016 to 46,971 in 2021. The trend is similar across Canada and the United States. In 2021, more US PhD graduates were hired by private companies (43%) than by academic institutions (36%).

With an oversupply of PhD graduates and a shrinking number of academic positions globally, the reality is that most PhD graduates are being hired outside academia, with many landing intellectually stimulating and financially rewarding positions in industry.

These statistics are just one part of the pie. Many opt to leave academia for reasons such as declining mental health triggered by pressure to publish, or job insecurity, bullying by supervisors or low wages. People often secure industry positions that have 'lead', 'scientist' or 'researcher' in their titles. But post-PhD researchers aren't always aware of how to land such a job. "Universities generally don't give any career guidance for people that are in graduate programmes," says David Tang, a user-experience researcher at a major financial



Melanie Zeppel stepped off the academic path to become a data scientist in industry.

services company in Arlington, Virginia, who worked out his own path to a non-academic career after gaining a social psychology PhD.

Those who have made the successful leap from academia to industries such as technology and pharmaceuticals share their career journeys, how they found their job and what strategies worked best in their search. Here are their tips and advice to help those still in graduate programmes achieve a smooth transition.

### Soul-searching before job hunting

Many job searchers turn to the Internet to whip out 'how to' guides to finding jobs in industry. But before keying in 'jobs I can get with a PhD in [field]' on the Google search bar, career coach Jennifer Polk in Toronto, Canada, suggests hitting pause. The long list of job adverts that the search can bring up is likely to stress people out, she says. Instead, she suggests clients at her consultancy From PhD to Life do some soul-searching, by thinking about what is important to them, what they like doing and what their strengths and skill sets are. "I think it's necessary for career

exploration and eventual job searching, but it's also necessary for your spirit as a person in the world," says Polk.

When faced with the question of what to do after her postdoc, cancer biologist Nimi Vashi reflected on her interests and zeroed in on her attraction to working for a start-up company. During her PhD and postdoctoral studies, Vashi realized that she came alive when attending entrepreneurship conferences and biomedicine hackathons, in which clinicians, scientists, patients and carers discuss challenges and brainstorm solutions. She was also drawn towards building products. "I decided it's time that I experiment with working for start-ups, [until] I can start my own," she says. In 2022, she began her career at Epinoma, a diagnostics start-up in San Francisco, California, where she leads the therapeutics division.

PhD graduates who are curious about industry should talk to someone who's already working in the sector. But finding these human resources once they've left the academic halls isn't always easy. When Tang wanted to explore options, he started by asking friends

## Work/Careers

and acquaintances if they knew anyone who had a successful career in any industry. Once he had made a few contacts, it was easy to find others whose path matched his career ambitions in the tech industry.

Early-career researchers can expand their networks by attending conferences, hackathons and research meet-ups that often attract industry participants, or by keeping in touch with former laboratory mates and graduate-programme peers who have moved into industry. These people can share their career journeys and put you in touch with the people hiring for roles that best suit you and your career goals.

Bioinformatician Marcela Johnson calls her network “a big asset”. When building it, she let her academic supervisors know of her interest and tapped into their networks for leads. “Although my principal investigators haven’t been in industry,” she says, “every time they saw something on LinkedIn or heard about an opportunity, they would forward it to me.” Her strategy helped her to find her current postdoctoral position at pharmaceutical firm Janssen in Christiansburg, Virginia, in January.

Social-media platforms such as LinkedIn and Twitter, on which people congregate professionally, are invaluable for building networks. LinkedIn, which allows searches for people by a specific job title, company, industry or skill set, makes it easy to find people who can share details about specific positions and how to get there. When cell biologist Payel Das wrapped up her PhD at Friedrich-Alexander University in Erlangen, Germany, and was looking for job opportunities to return to her home country of India, LinkedIn provided a head start. “From LinkedIn, I got to know about some of the start-ups that are in Bangalore,” she says, including her current employer Aurigene Oncology.

In her search for industry internships, Johnson experimented with different hashtags on Twitter, such as #bioinformatics, #internships, #summerinternship and #PhDInternship, which helped her to land a virtual internship at biotech company Genentech in San Francisco in 2022. That paid position gave her a sneak peek into the industry world. She now encourages everyone in her network to do as many paid internships as possible. “Being able to experience different companies gives you the opportunity to make a more informed decision once you graduate,” she says. Internship experience also gives prospective employers confidence that you understand how industry works, says Tang.

### Building social capital

Connecting on social media takes one click. Building connections with real people who will take time to mentor you takes more effort. Artificial-intelligence (AI) researcher Bikalpa Neupane in Austin, Texas, who works for Takeda Pharmaceuticals in Boston, calls



Career coach Jennifer Polk urges reflection.

this process building your social capital. “It takes time,” he says, reflecting on the years he spent as a graduate student at Pennsylvania State University in University Park between 2015 and 2021, connecting with people in industry. He set up several informational interviews, asking people about their job roles, career journeys, and for their advice on how to prepare his applications and dos and don’ts for the job-interview process. These informal interviews helped him to shape his PhD research on discrimination in AI to make it immediately useful in industry and taught him a few key industry terms so he could use the same vocabulary as industry professionals.

### “Experiencing different companies gives you the opportunity to make a more informed decision.”

Informational interviewers should be clear about what they want to know. Don’t be generic and waste your interviewees’ time, says Vashi, who suggests doing your homework and not asking questions that the Internet can answer. For example, she reached out to people whose career roles interested her, and asked questions about what they do in their roles and how they got there. Neupane used a template for reaching out to people on LinkedIn: ‘Hi, I see that you are in [Company XYZ]. I want to be somewhere like you someday. But I have no idea how to get there. Can I please have 15 minutes of your time to learn about you and your career journey?’

Once you start doing informational interviews, they can also be life-affirming, says Polk, because they can mitigate the isolation and stress that people face when leaving academia. Approach them with your learning hat on and

have these conversations early on, she says. “Now is a great time to go and do informational interviews.”

### Acting the job search and application

Platforms such as LinkedIn and the job website Indeed can return overwhelming lists of open positions when searched with keywords such as ‘scientist’ or ‘researcher’. As well as trawling these sites, Vashi went a step further. She regularly searched CrunchBase, a database of companies with investment and funding information, for recently-funded start-ups because they were likely to be hiring soon. She proactively reached out to the chief executives to see whether she was a good fit for the companies.

Ask your network of academia-to-industry converts for tips about hiring, such as the number of rounds of interviews for specific positions and the expectations of prospective employers. These are the best people to also give you feedback on your CV or résumé and cover letter and to help you to tailor them to what people in industry are looking for. Das suggests keeping the summary of your experience short – ideally a page or two – and highlighting skills that align best with the advertised position. If possible, ask a connection at the company to forward your application to the hiring team to increase the chances of it being read, she says. Neupane, who regularly recruits people for his data science and AI team, suggests crafting an elevator pitch about how you will apply your research in industry. “I’m looking for whether you can demonstrate the value of your PhD to the workplace,” he says. Prospective employers look for PhD graduates with good communication skills, business acumen and a willingness to learn new skills, and those who grasp the breadth of the industry.

Because recruiters constantly scan for people to hire on platforms such as LinkedIn, it pays to keep your profile up to date, says Zeppel, including turning on the #OpenToWork banner to show you are job seeking, and adding keywords to the profile that indicate your expertise. Taking these steps helped a recruiter to find Zeppel for her first industry job.

For many who have made the leap, their new industry careers are rewarding – they get to do cutting-edge research, solve real-world problems, earn a handsome salary and often have a better work–life balance than they had in academia. For Zeppel, it is about seeing the impact of her work: “I love the immediacy of questions, analyses and results.” Your first industry job post-PhD might not tick all those boxes, but with persistent information-gathering and networking, you can eventually find your dream position. “Your next job is not your last job,” reminds Polk, “You’ve likely got many decades ahead of you.”

**Spoorthy Raman** is a freelance science and environment journalist in St. John’s, Canada.

NADALIE BARDOWELL