

CAREERS

PATH CRAFTER From biological scientist to science-career adviser **p.137**

SUPPORT Tips and resources for mentors and mentees at go.nature.com/mentor

ONLINE Career resources from our community at www.nature.com/careers



GUIDANCE

Insider knowledge

University careers advisers describe how graduate students can get the best out of the services that they offer.

Careers advisers help PhD students to prepare for job hunting and future employment. Typically, this involves one-to-one appointments and skills workshops on topics that range from interview techniques to writing CVs.

But the take-up of such services can be patchy. A 2017 *Nature* survey of PhD students worldwide asked about their awareness of careers advisory services. Of more than 5,700 self-selecting respondents, only 11% said that they had discussed future plans for employment with a careers counsellor at their institution. Just under one-third said that they knew of such services but had not used them.

At some institutions, the careers advisory team also supports postdoctoral researchers. Many advisers have completed PhDs in science or engineering and gained experience as postdocs, as well as graduate qualifications in careers guidance, and therefore have first-hand knowledge of the employment challenges faced by early-career researchers. They often also support academic supervisors, many of whom have little information about jobs outside academia.

Another 2017 survey, of principal investigators (PIs) and research leaders, found that one in four did not feel confident about providing careers advice to students. A similar proportion said that they were confident in doing so. The

poll — which was conducted by Vitae, a UK non-profit organization that supports academic researchers' professional development — also found that 40% thought that they would benefit from further training in careers guidance.

Nature asked five careers advisers with scientific backgrounds about their roles and the services that they offer, as well as how graduate students and postdocs can make the most of the advisers' skills and expertise.

SINA SAFAYI

Think positively

Director of student professional development at Rush University in Chicago, Illinois.

The thing that we offer that has most impact is one-to-one advice sessions. I deal with a lot of uncertainty in people who entered graduate school wanting a faculty position. They are juggling all these expectations — from family, laboratory culture and supervisors, as well as from PIs who consider non-academic career trajectories to be a failure.

When someone wants to leave academia, they often feel that they cannot let their PI know, in case the PI gives up on them and offers better projects and publications to others. This can create a crisis.

Students often ask what they can do to find a fulfilling career and feel satisfied. I stress that our appointments are confidential and suggest that they book several to discuss their individual development plan, which is a to-do list of ways to identify and utilize their strengths, ways to identify skill gaps and to acquire those skills, and ways to make a plan to achieve their goals. I also give them homework and follow-up tasks.

One thing I tell them is that, as a PhD student, you are becoming a great critical thinker and problem solver by starting a project from scratch and mastering it over a number of years.

You are also acquiring communication skills, project-management skills and time-management skills. You are collaborating with colleagues in your lab and institution, so you are picking up people-management skills. When combined, these 'soft' skills can make you successful at whatever you choose to do.

The key for students is how to tailor that skills package to a different career sector. Our mission is to boost their confidence.

I think that postdocs face a more urgent ►

► situation. In many ways, they are the most vulnerable portion of the higher-education community. Unlike a graduate student, whose main goal is to get a PhD, a postdoc's goal is to get a job. Graduate students are allowed to spend time on courses and learning, but a postdoc is hired to do full-time research. Their contract might be ending. They need to be proactive.

Because of my background in science, I'm very interested in measurable outcomes. When we run a grant-writing boot camp, I'm interested in how many people attended, how many of those attendees submitted applications and how many of those applications were successful, compared with the success rate among those who didn't attend.

While I was in a previous role at the University of Texas, Houston, the university's alumni office calculated that one year after the career development office was set up, 60% of students moved to postdoc positions, and 40% to other career paths. Previously, this ratio had been 90% to 10%.

My top tip? Don't be dragged down by things over which you have no control. Be mindful of your mental well-being.

TINA PERSSON

Audit soft skills

Careers coach and trainer in Stockholm.

Recently, a participant at one of my workshops described writing a PhD thesis as an achievement in itself. I disagree. What counts is understanding what to do with your PhD, what you have learned along the way — both from successes and failures — and what you should add to your CV.

Getting a PhD is like winning an Olympic gold medal. You get home and think, "What next?" Suddenly, there is a situation you can't control. It's a fear of failure, of asking for help, or of people saying: "You've done a PhD but you're still unemployed. How did that happen?"

I develop seminars and transferable-skills training workshops for people with PhDs, as well as provide individual and group coaching. I typically coach students for six months to one year before they finish their thesis and don't know what to do next. Often, they say that they don't want to stay in academia.

People with PhDs tend to think in terms of, "What is a perfect personality?", and that only 'hard' skills will get them a job. I help them to see that any personality can be perfect. Industry employers value what you can offer — people skills, communication skills, teamwork skills.

We start with a personal inventory of these hard and soft skills. We also talk about their likes, dislikes and their passions. Are they administrative, enterprising, supportive or creative?

If they don't like being at the bench, we look at alternatives. I encourage them to learn from others by reaching out to industry people on the professional networking website LinkedIn, and by listening to interviews on PhD Career Stories, a podcast that I founded. We then discuss what they have discovered about specific careers, and whether they want to pursue any of them.

I also cover the hidden job market, a term used to describe jobs that aren't advertised or posted online — the ones that come through referrals from key people in companies.

People who want to leave academia after a few years come to me with their CV and ask what jobs are out there. They want a quick fix and say, "Just tell me what to do." They expect to find a job in two weeks, but that's not how it works. I look at their CV and say that it's nice, but it looks as if they are seeking another academic post.

So they remove things such as articles, academic merits and references from professors. Industry employers don't care about that stuff. They are interested in what you want and what they can offer you. You have to bring value and profit. Also, are you a good fit for the company? That is the mindset that I wish we could get to people with PhDs.

My top tip: understand the needs of your future industry and build up a network of industry contacts.

SARAH BLACKFORD

Guide and facilitate

Academic careers consultant in Lancaster, UK.

One-to-one appointments usually last between 20 minutes and 1 hour. Their purpose isn't to address the cry for help, "Just sort me out. Give me the answers." It's about getting people to reflect on their situation and helping them to find their own answers, as well as providing advice on and information for the next steps.

At the end, I ask them to sum up what they have learnt. I never sum up for them. I encourage them to think of one thing that they could do next — perhaps change their CV or get extra experience in something.

You're not telling people what to do, although you do hold lots of information in your head about potential contacts they could reach out to. Instead you're guiding them, and enabling them to reach their own decisions.

As a careers guidance professional, you need to have empathy and good intuition, as well as listening and investigative skills. When people come to me saying that they feel a bit lost or negative about their career prospects, I get them to reflect on their achievements to try to

bring it round to a more positive conversation. This can help to empower them. If I think someone needs professional counselling from a qualified counsellor, I would refer them to their university's counselling professionals.

I do a lot of work with groups, during which I encourage peer coaching, a technique that can help to create support networks. I put people into pairs, and then groups, to help them to identify and resolve challenges, after which they each come up with a plan of action.

My top tip? Take control of your career. Seek advice and guidance, do research and listen and learn, but always reflect and then make your own decisions.

PAIGE HILDITCH-MAGUIRE

Compete globally

Director of graduate research education and development at Queensland University of Technology, Brisbane, Australia.

Rather than offering one-to-one sessions with graduate students, our Graduate Research Education and Development (GRE+D) programme includes online modules and face-to-face workshops. We have people who are responsible for engaging with industry, arranging mentorship opportunities and research partnerships, and running transferable-skills programmes. These initiatives followed a review of Australia's research-training system, published in 2016, which recommended more industry placements for higher-degree researchers and better transferable-skills training.

You cannot have a student come to you for help in the final moments of their PhD. Assistance needs to start earlier. At Queensland University of Technology, it starts with a self-assessment tool that helps students to identify which skills they need to develop.

If someone says that they are terrible at networking, the tool will show what they need to do to address that, and what resources are available. We provide five-week online courses on subjects that range from project management to entrepreneurship. Students can test their appetites by starting with short video tastings and then enrol on more intensive courses.

There needs to be a big cultural shift in academia. At the moment, the culture is almost all about the academic career path, but supervisors need to understand that their students are not going to be a 'mini-me'. We've seen supervisors actively discourage students from looking further afield. Those supervisors need to develop their understanding about different career paths.

Academic roles are also changing. You have to be more aware of industry, more innovative and entrepreneurial and more transdisciplinary.

One thing that I tell graduate students is to remember that you're competing globally, even if you have no plans to move away, perhaps because of family commitments.

Students are smart and used to being the best of the best, but they do have to be able to articulate what skills they have, as well as to think hard about what they need to do to become more marketable.

They should also acknowledge what they are not good at. We want them to say what they hate doing, which helps them to recognize skills gaps and how to fill them.

My top tip? Develop a broader understanding of yourself, not just your research. Think about how to articulate non-scientific skills, both in written applications and at interview.

MICHAEL MATRONE

Meet with industry contacts

Associate director at the office of career and professional development, University of California, San Francisco.

When someone makes an appointment with our office, they fill in a short questionnaire about their goals and what they want to get out of the first session. That helps me to understand their expectations and to gather resources for them, so that they can leave with something. It could be a worksheet, books to read or a list of useful websites.

I often bring a deck of cards, on which career values are printed, which we sort. We also do a similar skills-based activity using the online career-assessment tool SkillScan.

Experiential learning opportunities are gaining popularity, including short internships that don't take much time away from a student's work in the lab.

I encourage informational interviews. You could read everything available online or from books, but it would only get you so far. You really need to talk to somebody who works in a particular sector. Some people find it difficult to set up these meetings, but I stress that the worst thing the contact can say is no, and it will cost you no more than US\$10 for two coffees. For that, you can get a lot of information and some easy, low-key networking.

My top tip: don't let someone else define your career success. There's a predominant mentality in academia that those who do not pursue faculty careers are failures. Graduate students and postdocs hear this and struggle with it. ■

INTERVIEWS BY DAVID PAYNE

These interviews have been edited for clarity and length.

TURNING POINT

Career developer

In 2015, Briana Konnick left a postdoctoral position at the Scripps Research Institute's Florida campus in Jupiter, where she had earned a PhD in biology the previous year, to become a career adviser. She moved to a similar role at the University of Chicago in Illinois in 2016, and is now associate director of graduate career development there.

How did you get your current role?

The Jupiter campus at Scripps had few career support services for graduate students and postdocs during my PhD, unlike the main campus in California. I helped to form a graduate-student committee, started a mentorship programme and led a local chapter of the Network for Women in Science. Then, I helped to lead the postdoc association, arranging for employers to visit us on campus.

I had the same supervisor for my PhD and postdoc. He was transparent about the realities of the academic career track, and what it was like to deal with budgets and grants. Many faculty members don't typically share this aspect of their positions. I realized that I enjoyed helping to develop programmes for graduate students and postdocs more than I did my laboratory work. In 2015, I was appointed to a full-time post with the Career and Postdoctoral Services Office at Scripps.

A year later, I moved to the University of Chicago, as assistant director of graduate career development. We moved to the greater Chicago area because my husband, who is a research chemist, had an opportunity to found a start-up company based on some of his previous work. My position at Scripps was wonderful, but this opportunity for my husband was too good to pass up. The 'two-body problem' (where one member of a couple gets a job in a new location, requiring the other to relocate, too, and find a job) is a common one.

In October last year, I was promoted to my current role. There are more than 20 people in our office, including 6 career advisers. At Scripps's Florida campus, I was basically an office of one, so moving to a larger office has been fantastic. I specialize in science, technology, engineering and mathematics because of my background, and I have colleagues who serve the social sciences, another who handles the humanities, and so on.

How do you organize your time?

Our busiest time is autumn. Graduate students are starting new programmes, late-stage PhD students and postdocs are applying for faculty positions and employers are hosting recruitment sessions on campus.



The office has a clear mission of equally supporting any career path a graduate student or postdoc is interested in — whether academic, industry, non-profit or government. The career advisers all offer 12 full hours of advising appointments each week. At busy times of the year, I've offered a couple more hours, but that has to be the limit. Otherwise, it's quite easy to burn out and we would not be as productive. There is preparation and follow-up to do with every appointment. Being busy is a great problem to have. We're always hoping that people will come to us more.

What advice would you offer to someone considering a career-development role?

I recommend gaining experience with a range of stakeholders in academic institutions. The more exposure you have to the needs and perspectives of other administrators, academic leaders (say, in the provost's office), faculty members, deans and so on, the better prepared you will be. You need to be able to navigate a variety of situations with diplomacy, effective communication and measured consideration.

Excellent organization and management skills are essential, because a decent amount of the work in this role is purely administrative. As my own story shows, you can take advantage of unpaid opportunities, such as volunteering and committee work.

In my office, I have a quote on the wall that I carry with me to every position I take: "Do what you love, love what you do." Sounds simple, but the message to me is profound. Seeking better alignment between what motivates you internally and the realities of your work will not only lead to great personal satisfaction, but will significantly improve the quality of your work. ■

INTERVIEW BY DAVID PAYNE

This interview has been edited for length and clarity.