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MIHAELA VAN DER SCHAAER Focus on the fundamentals

Data scientist at the University of Oxford, UK. Featured in *Nature* 548, 613–614 (2017).

Interdisciplinary skills are more important than ever. Many people try to prepare for an interdisciplinary career by taking a lot of different courses during their PhD, but that should be a time to focus on the fundamentals and build a strong technical background.

After you get a PhD, you can take your bag of tools and do a postdoc in a different field. You'll learn things from your new adviser, but you might be able to teach that adviser something as well.

DON'T BE AFRAID TO JUMP SHIP

By switching specialities, most recently to data science and machine learning, I've found the same sort of passion in middle age that I had as a PhD student. I have a beginner's excitement.

I was at the peak of my career doing work on signal processing when I decided to follow my interests and study data mining. I had become a full professor at the University of California, Los Angeles, but decided to change course again to data science and machine learning. In academia, though, moving through multiple types of experiences can be seen as a weakness, and I don't have the impact of someone who stayed in one field. Still, I'm very happy with my career. I just don't fit very well into a single box. I fit in many boxes.

ADVICE

Top tips to boost your career

Scientists and career experts highlight actions you can take to accelerate your research trajectory next year.

MEGHAN DUFFY Learn the power of yes

Ecologist at the University of Michigan in Ann Arbor. Featured in *Nature* 546, 175–177 (2017).

Learning how to say “no” effectively is a common piece of advice in academia, and I understand why. A lot of academics are ►

► overcommitted, and that's a huge source of stress. But it's just as important to learn when to say "yes". If you never say yes, you're never going to find the things you care about or have the impact you want to have. Think regularly and clearly about your long-term goals, and you'll know when to jump at an opportunity.

One of my goals is to improve the climate of academia. Recognizing that made me rethink whether I should work on so many editorial boards. That sort of commitment takes me away from promoting diversity, equity and inclusion. When I was offered a chance to blog for Dynamic Ecology (<https://dynamicecology.wordpress.com>) the timing was terrible, but I knew I'd regret it if I didn't take it. Blogging fits with my goals. I can't magically make more time, but I can make the most of the time I have.

PUT YOURSELF FIRST

Don't sacrifice your health and well-being for your career. Especially early in your career, it's easy to say: "I shouldn't do this long-term, but if I work really long hours now, I can make up for it in the future." That's a very common mindset, but it's dangerous. I know people who had to leave academia after getting tenure because they didn't address their mental-health issues during training. On Twitter, people will say: "Things are pretty bad but I'll deal with it later." They should deal with it now. That means: keep working hours under control, make time to exercise, spend time with friends and family and generally enjoy life. And if they need professional help, they shouldn't wait.

MAYA SCHULDINER

Listen to your lab members

Cell biologist at the Weizmann Institute of Science in Rehovot, Israel. Featured in Nature 547, 371 (2017).

A lot of people who start their own labs are afraid to admit how clueless they really are. They distance themselves from their students and postdocs because they want to assert control and act like they know what they are doing. But that distance can be very damaging. Most trainees have a lot to contribute. If you're willing to listen to them, you could learn from their experience. They know whether a lab is functional or dysfunctional, and they might even have great ideas for making it better.

Supporting your lab members and listening to their concerns could have a big pay-off. A lot of trainees waste huge amounts of time

dealing with setbacks and self-doubt. If you are receptive to their worries and give them encouragement, you can have happier, more energized, more productive lab members. You can't do this alone.

JOHN DUNLOP

Knock on doors

Biophysicist at the Paris Lodron University of Salzburg, Austria. Featured in Nature 549, 119–121 (2017).

I went from graduate school in Australia to postdoctoral positions in France and Germany before getting this job in Austria. Whenever I start somewhere new, I always make sure to go around and introduce myself. At the very least, it makes you known. You find out who has what instrument — information that is not always readily available on the institution's website. Introducing yourself can lead to collaborations. If you're really curious about what other people are doing and what excites them about their research, you'll naturally find the people you can collaborate with.

DON'T SWEAT THE SMALL DETAILS

I was stressed out during my postdoc at the Max Planck Institute of Colloids and Interfaces in Potsdam, Germany, because I wasn't publishing as many papers as my colleagues were. You always compare yourself to the people around you. But my mentor was very supportive: He said my goal should be to fill my batteries with science. You have to have the freedom to explore new things, meet people, travel to conferences and build up a database of potential research topics in your mind. You can draw on those reserves when it's time to set up your own lab. Looking back, the things that worried me didn't really matter in the big picture.

EMILY ROBERTS

Know your value

Owner of Personal Finance for PhDs in Seattle, Washington. Featured in Nature 547, 247–249 (2017).

Before you accept any position, be ready to negotiate. Whether you're transitioning from graduate school to a postdoc position or from a postdoc to a permanent job, the number they'll offer you will look pretty great. But you have to put that salary into context. Think about taxes and the money you want to put

away for savings. And if you're moving to a new city, you'll have to consider your change in living expenses.

A realistic look at the numbers should motivate you to ask for a higher salary. But your new employer doesn't want to hear about living expenses. You have to make your argument based on your own merits and what you bring to the position. A little research beforehand is imperative. Find out what other people in a similar situation can expect to make. Before my husband took a job at a biotech company in Seattle, we talked to a lot of people in the industry. You have to know what you're worth.

GARY MCDOWELL

Think outside the lab

Director of Future of Research in San Francisco, California. Featured in Nature 548, 489–490 (2017).

Many graduate students and postdocs have a goal to stay in academia, and that's great. But you don't want to get blinkered in. Keep an eye on side projects and outside activities that you may end up really enjoying. That certainly happened with me. I thought I was on the path to a faculty job, but I was doing advocacy work on the side. I eventually realized I was getting a lot more traction and recognition for my advocacy than for my work with frogs. I couldn't have planned where I am now, but I'm here because I kept my options open.

People ask whether I miss the bench. Really, I don't at all. I have a lot of intellectual freedom, and people seem to hold my work in high regard. Pretty much everyone I've met who has left academia says they enjoy what they're doing. I'm done with microinjecting frog embryos.

DON'T TAKE GRANTS FOR GRANTED

It's going to make your life a lot easier if you know how the major grant systems work. I studied the US National Institutes of Health grant-making process as part of my advocacy work, and I learned a lot more about grants than I ever learned at the bench. Being on Twitter helps, because people there talk about grants in great detail. But if you don't make an effort to really understand the mechanisms, you'll get a mixture of advice that's all hearsay. The most successful people are the ones who sit down and look at everything that's out there. ■

INTERVIEWS BY CHRIS WOOLSTON.

Interviews have been edited for clarity and length.