

# CAREERS

**SCIENCE TO MARKET** A neuroscientist takes on deal-making and tech transfer **p.434**

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Take time to make brief visits to faculty members, who can provide leads on grants, awards and jobs.

## RELATIONSHIPS

# Doctor's advice

*US doctoral students may find that their dissertation committee can double up as a board of career mentors.*

BY ALAINA LEVINE

PhD candidates in the United States have a certain advantage over students elsewhere. They are often required to assemble a dissertation committee — mentors who advise on topic selection and research ideas, scrutinize data, edit drafts and help to direct the work through submission and defence.

But members of a dissertation committee can often do a great deal more than that. They can lend emotional support or help to expand professional networks. They can offer leads and advice on grants, awards and jobs.

To maximize this relationship, the canny PhD student will select committee members

with care and nurture the bond (see 'How to get the most out of your dissertation committee'). Those on both sides of the experience advise staying in close and regular contact with mentors from day one, then keeping them updated on your evolving interests and progress during the doctoral programme — and beyond. "If the committee is chosen wisely, these people can be pillars of support for years to come," says Jelena Kovačević, an electrical engineer at Carnegie Mellon University in Pittsburgh, Pennsylvania.

Steven Senger talks of his dissertation-committee members in glowing terms. During his 2005–11 mathematics PhD, one found funding for him to attend several conferences and accompanied him to each, including a

prestigious annual maths summit that unites researchers from academia, industry and government. Senger, who is now a mathematician at Missouri State University in Springfield, notes that his mentor "was careful to pick certain people whom he wanted me to meet and have lunch with". One such meeting spawned a collaboration with a prominent senior colleague.

Another of Senger's committee members explained how to cultivate collaborations and how best to conduct research in maths. "He walked me through the logical thought process," Senger says. "He didn't just regurgitate a paper to me — he explained how he got to this conclusion. He treated me like an apprentice. There's a difference between giving someone the bare facts and training them to be a peer."

## HONESTY APPRECIATED

To glean the most from the relationship, it's best to be honest about what you want to do with your career, even if it differs from a mentor's own path — as maths PhD student Vyacheslav Kiria-Kaiserberg learned. In 2011, he asked mathematician Alex Iosevich of the University of Rochester in New York to be one of his committee members. The two subsequently spent many hours talking informally, and Kiria-Kaiserberg was upfront about his hopes to work in industry. So Iosevich introduced Kiria-Kaiserberg to his brother Sam, a manager at a data-science company in Chicago, Illinois, over dinner at Iosevich's home.

The informal meeting was a success by all accounts: this summer, after Kiria-Kaiserberg defends his dissertation, he will start work as a consultant at Sam Iosevich's company. "It's very important to choose the right people," says Kiria-Kaiserberg. "You can benefit from them and they can benefit from you."

Openness also helped medical researcher Luz Claudio in 1991 as she wrapped up her neuropathology PhD. She knew that she was more interested in applying her research to problems in the community than studying neurons at the bench, and had talked often of her interests with a committee member, a neuropathologist at her institution. He suggested a science-policy fellowship, and he wrote a recommendation that led to her winning one with the US Environmental Protection Agency (EPA).

After the stint ended, Claudio knew that she wanted to work at the intersection of public-health research and policy. Today, as head of the division of international health at Mount Sinai School of Medicine in New York City, Claudio has won renown for her work on asthma in ►

## TRADE TALK

# Cell negotiator



*Ben Thiede is a business-development officer at STEMCELL Technologies in Vancouver, Canada. As a neuroscience graduate student, he worked out methods to coax stem cells to*

*take on specialized properties of the inner ear. Now, he works out intellectual-property and other deals that help to bring technologies to the scientific market.*

### When did you first think about jobs beyond the bench?

About two years before I graduated from my PhD programme at the University of Virginia in Charlottesville, I got married and started thinking more long term about my career. Before that, science was just fun.

### What led you to your current career?

A classmate who was a year ahead of me was graduating with her PhD and going to law school. She had been exposed to other careers through an internship for the university's licensing and ventures group, working on technology transfer — helping to license and commercialize academic work. I did some informational interviews along the same lines, but I got an internship by talking to a guy who was fitting me for a suit. He was the father-in-law of one of the licensing managers at the university's patent foundation. I e-mailed the manager, and he took me on.

### How did your internship compare to the lab?

As a grad student, you think narrowly about one problem. My learning curve in tech transfer was steeper than it was in the lab. I had to quickly pick up what was important about a technology: how does it fit into the field, and what is its value? It was really interesting for me to be close to science that was close to the point of being useful to people.

### What do you do now?

I am looking for technologies, and evaluating whether they work or not and what is already patented. After we negotiate a license to bring in a technology, I can see that in six months or a year we are going to be using it in a product that researchers can buy and use in their labs. ■

### INTERVIEW BY MONYA BAKER

This interview has been edited for length and clarity. See [go.nature.com/xdttdg](http://go.nature.com/xdttdg) for more.

## MENTOR MATCH

### How to get the most out of your dissertation committee

- **Diversify** Populate your committee with people who are in your subfield and in related fields. Consider adding members who work at institutions other than your own, or outside academia.
- **Communicate early and often** Meet privately with your committee members so that you can develop a personal rapport. Check whether they prefer phone, text, e-mail or in-person contact.
- **Be honest and clear about your goals and concerns** Discuss your professional objectives, such as whether you want to work in academia or industry, move to a different city or nation or pursue a career in science, technology or elsewhere. The

more they know about you, the more they can help you.

- **Stay in contact** Send e-mails, ask for coffee appointments, request short Skype chats and send holiday greetings.

- **Promote yourself** Keep committee members abreast of your progress, successes, challenges and aspirations so that they will keep you in mind for potentially game-changing career opportunities.

- **Pay it back** Look for ways to help them, too. You have a network and access to information, ideas and opportunities. Work out how you can assist them with their career and professional interests. *A.L.*

► low-income communities. She credits her relationship with the committee member: “That experience changed my life.”

Although frequent face time is important, PhD students should choose at least one committee member who is outside their own institution, says environmental scientist Tammy Newcomer Johnson. That external connection, she says, can help to maximize potential career gains. Her own adviser at the University of Maryland in College Park encouraged her to diversify her committee, and she invited two ‘outsiders’, including Paul Mayer, an EPA ecologist whom she had met during fieldwork. They discussed career possibilities in the federal government, and Mayer noted links between Newcomer Johnson’s doctoral research and the EPA headquarters in Washington DC — where she is now a postdoc.

Thanks to a recommendation from him, she was invited to present a seminar at an EPA lab on monitoring stream restoration. Her talk boosted her CV and led to new contacts in the agency, who in turn gave her more information about research posts there. Now she is mulling over staying with the agency for the long haul. “It gave me a sense of what a scientist does at the EPA — I realized that this could be a really wonderful career path,” she says.

Contact with committee members can stretch far beyond those PhD years, as can the benefits. Kovačević has sat on about 30 dissertation committees; one of her former students turned to her for advice half a dozen years later while pursuing an assistant-dean position at a major US university. Kovačević proofread the CV and suggested improvements. She has also nominated another former student for membership of a prestigious electrical-engineering committee.

Indeed, there is much for a PhD student to gain from a warm association with

committee members, but the best former students will also consider what they can give back. In January, Newcomer Johnson invited members of her former committee to give talks at the EPA. “I’m connecting them with my network,” she says. A former student of Kovačević’s landed a desirable position at a company and has since made sure to ask the professor to circulate the company’s job openings to her students. “This is a two-way benefit,” says Kovačević. “She gets help to succeed at her job, and the benefit to me and my institution is placing students at a good company.”

Students should remind faculty members whom they invite to serve on their dissertation committee that they are likely to benefit. “One measure of success for professors is the success of their students,” says Claudio. “When you are up for promotion and tenure, the better your students do, the better you look.”

In the end, seasoned committee members say, the rewards of a dissertation committee can go both ways. “Understand this is an incredible potential resource,” says Kovačević. “Do as much as you can to nurture it.” ■

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### CORRECTIONS

The Careers Feature ‘Take my advice’ (*Nature* **532**, 531–533; 2016) wrongly implied that the Houston-based consulting club is run by the Texas Medical Center. In fact, it is an independent organization.

The Careers Feature ‘Change is in the air’ (*Nature* **532**, 403–404; 2016) wrongly affiliated climate-change ecologist George Divoky with the University of Alaska Fairbanks. He is actually now director of Friends of Cooper Island in Alaska.