

CAREERS

TURNING POINT Award-winning mentor says making time for protégés is key **p.423**

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23.4% for 2013–14, compared with 20.8% for 2010–11. At the same time, the 2014 National Science Foundation *Science and Engineering Indicators* report that the proportion of US-trained science and engineering PhD holders working in academia that has achieved tenure fell from 53% to 48% between 1997 and 2010. Although tenure success rates can be more than 80%, they are much lower at some universities — particularly at prominent private ones known for their selectivity, such as the Massachusetts Institute of Technology in Cambridge (see *Nature* 495, 28–31; 2013). In Europe, tenure-track positions are becoming more popular (see ‘Success in Europe’).

Perhaps the best way to deal with suspicions of tenure denial is to seek out candid assessments, and not just be content with informal words of encouragement from colleagues.

Most universities have some kind of formal evaluation at the mid-way point to tenure, generally after three to four years of employment. Some have gone further, taking steps to increase transparency in the tenure process and to improve mentoring to provide tenure candidates with better feedback. The provost at Stanford University in California runs workshops for assistant professors every year to demystify the tenure process, and the University of California system has created a peer-review process that involves the department chair and faculty members and takes place every two years. In 2012, the Women Faculty Forum at Yale University in New Haven, Connecticut, piloted a programme called ‘side-step mentoring’ in which junior female faculty members are matched with mentors from another department, in part to help them to navigate the tenure process. The approach has now been adopted university-wide.

“Ask for the critical, meaty stuff, such as ‘How many peer-reviewed articles, grants, or books are expected?’” says Mark Aldenderfer, an anthropologist and dean of the School of Social Sciences, Humanities and Arts at the University of California, Merced. “An honest mentor needs to be part of the game plan.”

A frank self-assessment can help, too — not just of performance but also of how well the researchers think they fit into a university’s research environment. “Lots of times, the people who don’t get tenure have done brilliant work; it just doesn’t fit into a coherent programme that matches the mission of the department,” says Lisa Graumlich, dean of the College of the Environment at the University of Washington in Seattle. ▶

ACADEMIC PROGRESSION

Tactical tenure manoeuvres

The tenure process is stressful, but there are ways to prepare for it. And one denial need not curtail a life in academia.

BY VIRGINIA GEWIN

Academic scientists work long hours, against increasingly daunting odds, to publish the papers and win the grants that they hope will secure them a faculty post. For many, a tenured position is the ultimate accolade, especially in the United States.

But dreams are sometimes dashed. Plans are sometimes foiled. Tenure may not come. Those denied it may react with anger, disgust and even depression. But there are plenty of ways to prepare for the tenure decision and

to press on when it does not go according to plan. Candidates need to make sure that they are summoning all possible resources to secure tenure. And they should recognize that a denial, if it comes, can actually have a silver lining by forcing researchers to take stock of their strengths and choose a new path.

In the United States at least, tenure has become harder to achieve. Survey data released this month by the American Association of University Professors (AAUP) in Washington DC found that the proportion of assistant professors in non-tenure-track posts was

► Young faculty members should become adept at reading the political dynamics at play. “Everyone acknowledges that there is a political part to tenure, but no one likes to admit it,” says Priyamvada Natarajan, a Yale astronomer and former chair of the Women Faculty Forum. Still, it is a balancing act: ducking department politics by never talking at faculty meetings or expressing an opinion can be damaging. “Young faculty need to find their own personal strength to express their point of view, and not fade into the woodwork,” says Graumlich. “Otherwise how can colleagues determine whether they have the potential to become leaders?”

BACK UP OR BACKFIRE?

Networking is never more important than at the tenure stage. If external experts are unwilling to write a letter of support for the tenure application, then they either don't know you or don't want to write a negative letter. Neither is a positive sign.

A robust network of colleagues can also help to send signals of interest in switching to another university when aspiring researchers feel that tenure is unlikely. When ecologist Brendan Bohannon saw a friend and colleague one year his senior denied tenure at a prestigious university, he got nervous. “I didn't understand the decision and decided I needed a safety net,” he says. He got in touch with his network of colleagues, formally applied for four positions, and ended up securing a tenured post at the University of Oregon in Eugene.

Researchers need to tread carefully here. Although it is wise to cover bases, the efforts can be misinterpreted: if word gets out to colleagues, they may come to question the commitment of the candidate. “I see a lot of people wasting time doing this, but it doesn't create the safety net people think it's going to,” says Graumlich. “Mulling over an exciting, unsolicited opportunity is one thing, but you don't want to appear to be playing a game by trolling for jobs.”

SUCCESS IN EUROPE

Other nations are starting to embrace the tenure system

Tenure has not traditionally been the norm in Europe, which has followed more of a civil-servant model. But a handful of universities are creating tenure-track systems akin to those used in the United States. The Swiss Federal Institute of Technology in Lausanne (EPFL) is perhaps the most well established. First introduced ten years ago, the EPFL tenure-track programme now includes 100 faculty members and has a success rate of 75%, which is more stringent than many US universities. “The competition is very steep,” says EPFL president Patrick Aebischer.

Finland and Germany are following suit — even changing laws to reshape research career structures. In 2010, Aalto University in Finland announced that all new professor positions will become tenure-track. Since then, most of the 13 remaining

universities have begun to pilot tenure-track programmes, opening up a few slots at a time to test the waters. The Technical University in Munich, Germany, has also announced that it wants to have 100 tenure-track professors — up from 20 now — by the end of 2020. Administrators at these institutions agree that offering tenure track has improved the quality of applicants.

Aebischer says that there was a worry early on about what would happen to people who were denied tenure — particularly because it might make it difficult for them to secure a job at another European university. But he says that half of those denied tenure found positions at another university and the other half ended up in industry — often with help from the EPFL. “If we think they're not going to make it, we tell them,” he says. **V.G.**

But the opposite can also be true. “I've seen people who come up for tenure start getting offers, and it changes the framing for the tenure decision,” says Karen Cook, Stanford's vice-provost for faculty development and diversity. “The question becomes, ‘do we want to lose this person?’”

The worst-case scenario is being surprised by a tenure denial — yet it is hardly uncommon. Some may choose to appeal. This, if nothing else, offers a way for people who feel they have been mistreated to channel their anger and frustration, says Greg Scholtz, director of academic freedom, tenure and governance at the AAUP. And they may feel that by filing a grievance, they are improving an institution's policies and helping those who come after them. In rare cases, appeals are successful,

but usually the decision was close and just a few faculty members needed to change their votes to reverse the decision.

The AAUP sometimes intervenes if procedural steps — inadequate notice of denial, no written reasons given for denial or no opportunity given to appeal — are not followed. Since 2000, it has handled around 200 such cases but intervened, or formally communicated with university administrations on the complainant's behalf, in only 10–20% of those.

THOSE LEFT BEHIND

The tenure process can be heart-wrenching not only for those who are denied, but also for the colleagues they leave behind. When Liz Hadly was a new assistant professor studying ecology at Stanford, she formed strong

MOVING ON

How one academic coped with tenure denial

Those denied tenure may find it difficult to regroup and move on, whether this means they endure a stalled career or a bout of depression. But many do find an alternate route in academia. In a series of blog posts, ecologist Terry McGlynn described the pain, loneliness and grief he felt as he went through the experience (see go.nature.com/jdlxnd). He decided to appeal. “It made me feel good to see excerpts from my reviews and evaluate the evidence on my own,” he says. And he worked hard to revive his career and secure a fresh start in academia, turning to the chair of his department for letters of

recommendation, hopeful that her letter would signal the support he had from many in the department.

He estimates that he applied for more than 70 jobs during the final year that those denied tenure are allowed to remain at the university for — painstakingly tailoring his cover letters and curriculum vitae to match the position. Aided, he believes, by his spot-on description of how he fit in with the institution's aim of engaging first-generation, underrepresented students, he got a tenure-track position at California State University, Dominguez Hills. Three years later,

he secured tenure. Today he has a fulfilling balance of teaching and conducting research on tropical ants. In retrospect, he says, finding a position that was a better fit for his talents and interests was “a gift”.

McGlynn acknowledges that sharing his tenure denial so publicly was a risky move. (Several people contacted by *Nature* to talk about their experiences declined interviews.) But he felt that it was important to bring the issue out of the shadows, especially given how isolating the experience can be. “By putting a face on it,” he says, “I was hoping it would help more people.” **V.G.**

bonds with her tenure-track colleagues. Ultimately, though, she was the only one to get tenure.

It tore those relationships apart and left Hadly with something akin to survivor's guilt. "We were all very close, had written grants together," she says. "I considered them respected colleagues."

They did have one thing in common, she recalls — they all channelled their emotions into finding new opportunities. A few got jobs at other research institutions and one went on to be incredibly successful in business. "People land on their feet quickly if they are well known and well regarded," Hadly says.

MOVING FORWARD

Ultimately, those denied tenure have to move on — and that generally means seeking out a faculty position elsewhere. Search committees will, understandably, want to know what happened.

Candidates should therefore be sure to understand why they were denied tenure and be able to present the setback in context. Bohannon says that the people he has seen weather tenure denial made clear to prospective employers why they were denied tenure to counter the perception of subpar performance. For example, if a candidate's publication record is thin, but they have multiple publications in the pipeline, they could argue that the decision was premature.



"Young faculty need to find their own personal strength to express their point of view."

Lisa Graumlich

Colleagues can help. When writing letters for people who have been denied tenure, Cook says, she focuses on the strengths of the candidate, their research record, teaching accomplishments and the role that they have in the institution. Those skills don't just disappear, and other universities are often only too happy to scoop up high-quality candidates.

Life in academia can go on after a tenure denial (see 'Moving on'). "Almost everyone in the academy knows wonderful stories of people who got denied and found the right home," says University of California vice-provost Susan Carlson. "It's certainly not the end of the road." ■

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TURNING POINT

Joel Elmquist

Like most great mentors, Joel Elmquist points to his past advisers as exemplars of good guidance. Elmquist, winner of the 2014 US National Postdoctoral Association (NPA) mentoring award and a neurologist at the University of Texas Southwestern Medical Center in Dallas, hopes that he can lead by example and pass on the importance of good mentorship to his protégés. He received his award on 4 April at Washington University in St Louis.



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What made your mentors so valuable?

I learned different things from each. My graduate-school adviser basically taught me how to be a scientist — how to design an experiment, how to establish a good control. My postdoc adviser gave me the freedom to do what I wanted, but was always there if I needed his input. He also instilled in me the importance of writing, because scientists are evaluated, in part, on grants funded and papers published. It is not just about being smart, doing experiments and working hard.

What tips did you get about writing?

Before I even started my postdoc, my adviser and I wrote a grant application together. I wrote a draft and mailed it to him. He sent it back marked up initially with a green pen and made a note that he had run out of ink and switched to red. At the time, I was distraught, and thought that I was in over my head — he was this famous guy at Harvard and I was just a graduate student sitting in a basement lab at Iowa State University. But he included an encouraging note that said revision is an important part of the process. It was a valuable lesson.

How do you pass that advice on?

I actively encourage my students and postdocs to write the first draft of a manuscript. I encourage them to get input from other members of the research group. Everyone in my group writes fellowship applications. I always say to my postdocs, if you get a fellowship, it helps with our budget, it helps with your CV and, most importantly, it helps you to learn the art of grant writing.

Your nomination for the NPA award mentioned your propensity for collaboration. How do you encourage that?

Create an environment in which people are not afraid to disagree about their interpretation of results. The principal investigator has to be generous with authorship. If you need a key collaborator from outside your group,

don't worry about authorship so much that it impedes the progress of the science. It is also really important that you do not have two people from the same group competing. It can be a fine line. I try to have two or three people in my lab working together simultaneously on two or three things. But I try to make sure that they have defined roles and that by working together they will produce synergy rather than competition.

What is your overall philosophy of mentoring?

Always make time. My postdoc mentor was such a busy guy — department chairman, countless committees, his own research, editor of a major journal. But he was always available when I needed him. He also taught me to be hands-off, unless my postdocs needed help. It is counter-productive to micromanage postdocs. Good mentoring brings in talent, which further perpetuates your lab's success. Prospective postdocs and students look at your papers, of course, but they also look at where people who were in your lab end up.

How do you encourage good mentorship in your postdocs?

Before they leave, I always sit them down and talk about mentorship. I try to provide good examples, such as how my postdoc adviser was generous not only with his time, but also with his connections. For instance, he helped me to get speaking slots at meetings and got me invited to some of the more important meetings and conferences. I try to do similar things — network on behalf of my trainees. My mentor also taught me to be confident in my skills and to think about what the people in my lab can take with them when they leave. ■

INTERVIEW BY PAUL SMAGLIK