

expanded, Baud thrived. In 2014, she won a £250,000 (US\$332,000) four-year Sir Henry Wellcome postdoctoral fellowship.

Liu's analysis of MIT labs suggests that top-tier postdocs tend to excel no matter the lab size. In that sample, postdocs who had won fellowships — a marker for excellence — didn't hamper efficiency when they joined a lab. The data, according to Liu, suggest that outstanding postdocs don't necessarily need to worry about staying productive in a large lab. But for postdocs who aren't superstars, large labs have clear dangers. "If you feel that you would benefit from more attention from the PI, maybe you should consider a smaller lab," he says.

REAL-WORLD TRAINING

In addition to more interaction with the PI, smaller labs might also provide realistic training for a career in academia, Miller says. "Some of my friends who come out of large, highly funded labs were used to having a lot of technical support and money for anything," she says. "When you start your own lab, it can be a bit of a shocker."

Smith has seen similar consequences in Canada. "Students and scientists who have been in big labs their whole careers can have a skewed view of academics," he says. "Reality isn't massive research teams and *Nature* papers and million-dollar grants."

Miller completed her postdoc in a small lab at the University of Wisconsin–Madison. Without a technician or other postdocs, she had to learn every detail about managing a lab, from writing animal-care protocols to mixing reagents. Because of this, she didn't stumble when it was time to start her own lab. "I

was ready to go," she says. She also didn't have to compete with other postdocs to give talks at meetings, review papers

or join key projects. "All of these things are good for your career development and visibility in the field," she says.

Looking ahead, Miller says that she would eventually like to have two or three postdocs and several graduate students — a lab that falls between the extremes of size. "That's kind of reaching my capacity for being fully invested," she says.

Postdocs can find success in labs of any size, says Kinkelin. They need only to decide if they want to stand out in a small group or find their own space in a larger one. Either way can work — especially if postdocs are aware of the potential trade-offs ahead of time. "People have to think about what they want to get out of it." ■

Chris Woolston is a freelance writer in Billings, Montana.

COLUMN

United we stand

Postdoc advocacy is key, say **Antoine de Morrée, Forrest Collman, Catherine Gordon and Megan Klabunde**.

When we were elected in 2011 to head Stanford University's postdoctoral association in California, we had big plans to improve social networks and training for postdocs. But we soon learnt of a more pressing issue. Living costs in the San Francisco Bay area had risen dramatically (the monthly rent for a room in a shared apartment had increased by around 7% over the previous year, to more than US\$1,600) and our postdoc community wanted help — specifically, with commuting expenses, which were so high that they negated any savings in rent for living farther away from campus. Commuting postdocs, earning around \$3,500 a month, were spending up to \$200 each month for train passes or \$30 for monthly campus parking permits, plus as much as \$1 per litre of petrol.

We took this issue to faculty members and administrators. Our work led to a pilot transportation-benefit programme in 2014, followed by a full rollout in 2016 for Stanford's 2,100 postdocs. Our lesson: advocacy works.

GET DATA

Although we quickly learnt that living costs were an issue, it took longer to understand how to address the problem. For instance, it was obvious that train-commuting postdocs would benefit from support, but would postdocs who did not currently commute, or who commuted by car? We formed a committee to investigate, and found that rent consumed more than 60% of the take-home pay for postdocs who lived within 30 minutes of campus. If they lived 15 miles away, their rent dropped by one-third — a huge incentive to commute.

With these data in hand, we met with key administrators responsible for postdoctoral affairs. We examined peer institutions and found that several offered commuter benefits to their postdocs. We also learnt that, as an employer, Stanford could buy discounted yearly train passes for all 1,800 postdocs living off-campus for less than the combined expenditure of only those who commuted by train.

STAND TOGETHER

Our data suggested that implementing commuter benefits was the right thing for Stanford to do. But we would need to persuade the university of this. First, we organized an anonymous survey (49% response rate) and analysed the data with the help of a statistician. We



learnt that one-sixth of postdocs commuted by car but would use the train if it was free. Next, we circulated a petition that invited postdocs to support the introduction of commuter benefits. We distributed this after the university had settled its annual budgets and consulted experts from Stanford's business school to refine our marketing. The petition revealed strong support for our efforts — 70% of postdocs signed.

Our momentum rekindled a movement among Stanford administrators to secure commuter benefits for postdocs and graduate students to help reduce the demand for limited graduate-student housing.

When we presented our findings to the provost advisory committee on postdoctoral affairs, the members unanimously supported our proposal to extend existing staff travel benefits to postdocs. The provost authorized a pilot programme through which the university purchased train passes for all postdocs living off-campus and sold them at cost (\$180 per year). Train-pass sales rose from 30% of eligible postdocs purchasing a pass in 2014 to 50% in mid-2016. When it emerged that the cost of passes was still prohibitive for many postdocs, the provost made the programme free. By the end of 2016, more than 70% of eligible postdocs had collected their train pass and could afford to live farther away from campus.

Postdocs are grateful for the new policy, and we are delighted that university faculty members and administrators were willing to discuss and implement solutions. Our grass-roots advocacy helped us to turn words into action. ■

Antoine de Morrée, Forrest Collman, Catherine Gordon and Megan Klabunde are former postdoctoral researchers at Stanford University in California.