

March 13, 2013

Found in: [Managing your career](#) | [Surviving grad school](#) | [Articles](#)

# The big benefits of working in a small lab

*by David Smith*

I didn't realize that what I had done was considered by many a big mistake. After finishing an undergraduate degree in biology, I started a PhD in a small lab, comprised of one graduate student and a professor who was two years away from retirement and, although well-respected in his field, far from famous.

My approach to picking this lab was simple. I went to the Dalhousie University biology department website, read the research blurbs for the different professors, and emailed the ones whose work interested me. Two of the five professors I contacted replied and invited me to meet with them. Both were nice, but Bob Lee was over-the-top friendly, down to earth and incredibly enthusiastic about research. I joined the Lee lab.

A year later, when I attended my first scientific conference, I discovered that many students are much more strategic when choosing a PhD supervisor. At the conference banquet, I sat with various master's and undergraduate researchers from across North America. During dinner, they discussed and debated where and with whom they should do a PhD.

One student was determined to work in a lab that regularly published *Nature* papers. "If they don't have big publications and lots of them," she said, "I'm not going. I need high-impact papers in order to get a good postdoctoral position." Another student was planning trips to universities around the world to interview potential supervisors. He listed the names of prominent scientists and their credentials. "What I'm looking for," he said, "is a lab where the students go on to attain jobs at top universities." Many at the table were already in contact with members from their prospective labs, asking about the supervisor and work dynamics. "I've just completed a master's in a lab that has over 25 staff," said one young woman. "Believe me, if there's a lot of infighting, your life can become a laboratory nightmare."

I wondered how these students learned so much about the ins and outs of academics in so little time. They made excellent points, and I felt naive for not having considered any of these issues before starting my PhD. That said, I was enjoying my time in the Lee lab, and my research was going great.

I soon recognized that my PhD experience contrasted with those of my peers from larger labs. They were constantly complaining about having to wait months for their supervisors to read and edit manuscripts. Some had not talked with their supervisors in weeks. And when they did sit down with their bosses, it was usually for less than 30 minutes. In certain cases, the principal investigators were so busy globetrotting to meetings that they were rarely in the lab at all. I once asked a friend from a major research group if she thought her supervisor would proofread an article I'd written, which highlighted her lab's work. "Sure," she said. "Get in line."

I was spoiled from being in a small lab. If I gave Bob a paper on Friday, he'd hand it back to me Monday and we'd spend the week working together on edits. If I was preparing a talk, Bob was always available to watch a few practice runs. If I had a question about research, I'd pop into his office and he'd say, "What's up, Smitty? Take a seat." With only a few people in the lab, we were inclined to hold our lab meetings in the

campus coffee shop, often extending them long into the afternoon with lively discussions about science. All of these interactions helped my productivity and development as a scientist. But most importantly, they made research fun.

Small labs typically have limited funds, but I never felt that having chosen to work in one hindered my research potential. If anything, it made me more resourceful and collaborative, which in turn led to more publications. And, having only one lab mate meant that I didn't have to compete against a lot of people for the available lab resources. With the help of my supervisor and travel awards (which are often reserved for students from small labs), I was able to attend at least one international conference each year.

After completing my PhD, I moved from the quiet security of a small lab to the hectic bustle of a large competitive research team. The transition was challenging and humbling, but the skills I'd acquired from working in a small lab – self-sufficiency and being collaborative, for example – helped me succeed in the new setting. I feel privileged and lucky to have experienced both extremes of laboratory work life. The lure of a large lab is hard to ignore, but I would encourage all students, particularly those at early stages in their training, to consider working in a small lab. In my case, it made a big difference.

*David Smith is an Izaak Walton Killam postdoctoral scholar in the botany department at the University of British Columbia.*