



1. Unhappy? Consider changing labs



2. But look before you leap!

Making a move

On the very first day of Hans Weber's* first doctoral project, his adviser showed him to a freshly renovated room with a host of equipment for electrophysiology experiments that needed to be assembled and installed. "I had the manual in one hand and a screwdriver in the other," Weber recalls.

Two months in and ready to start his first experiment at the research centre in central Germany, he needed to calibrate the amplifier that powered the experiments. It blew up on the first try. "I destroyed a €15,000 amplifier and I thought: 'This should not be the way a PhD goes,'" he says.

It took a year for Weber to realize that a lack of supervision and a near-impossible project did not make him a bad or lazy scientist. But like many before him, he carefully weighed up whether he should persevere or move to another laboratory.

Deciding to move — whether because of an unhappy situation, a change in interests or a lab group relocating — almost certainly means some lost time and a transition to an unknown situation. But most lab-switchers say the benefits of changing groups usually outweigh any negatives.

Should you stay or should you go?

Weber admits that he had days of self-doubt and considered quitting science altogether — a not uncommon reaction to this kind of situation. But he realized when talking to family and friends that the neuroscience fanatic in him was going to prevail. And after two older scientists encouraged him to find another group, he began discreetly e-mailing, calling and eventually visiting other groups around Germany.

"I didn't see any chance that things would change in that first lab," he says. "I think when you doubt your PhD for longer than two or three months, you should just change." Weber eventually joined a neurobiology group at a different university.

Although it seemed like a natural progression to him, Weber weighed the pros and cons of his situation,

Morale, money or moving house can all be reasons for switching labs mid-project.

Kendall Powell learns from those who have made the jump with success.

both in and out of the lab, and he spoke to people at the university and outside it. First, figure out if the problems you are facing come from your project, your lab, your university or your environment.

"If you are enjoying your work, your project, then don't quit just because you don't like your location," advises Mhairi Dupré, a first-year doctoral student in evolutionary biology at the University of Oxford, UK. She left a PhD at a university in Montreal, Canada, and took some time away from science before re-enlisting at Oxford a year later. But, if you are dragging yourself into the lab with dread, says Dupré, "There's no point going on with something you are not enjoying."

Make the smallest move that will accomplish your goals: for example, switching projects in the same lab will be easier than switching labs at the same university, which, in turn, will be easier than changing universities.

Sudarshan Anand, a fourth-year student, decided to switch from a general molecular-biology graduate programme at a Maryland university to an immunology programme at the Mayo Clinic in Rochester, Minnesota. He moved again when his supervisor relocated the lab from Minnesota to Johns Hopkins University in Baltimore, Maryland. Moving between programmes, universities and states was a hassle, but proved worthwhile for his long-term plan of doing translational research.

Students and postdocs say that the biggest question you should ask yourself is what resources you need for your planned career path and which lab best fits that list.

The second half of the decision-making process should probe external perspectives. When Carmen Drahl's adviser moved to a new university, she drew on "contacts I did not even realize I had" to help her decide whether to move with her adviser, stay behind and be advised remotely, or switch labs altogether. She talked to her family, college professors, an industry researcher she met at a seminar, her group colleagues and the faculty members at her graduate department.

"Branch out and use your resources," she says.

“There was not a unanimous position, but I went with my gut and the consensus that another lab might hold new opportunities for me.” If your adviser takes a new position, there are a few considerations to take into account before deciding whether to move with them. There are also things advisers can do to make that decision less painful (see ‘Trading places’).

Staying behind and being advised from afar may seem attractive, but it means less face-to-face time and delays in trouble-shooting. The problems multiply if the supervisor moves into an administrative role or an industry job, where their former research is no longer their primary focus.

“There’s a reason why labs have principal investigators,” says Rob, a biochemist who moved his lab group across the United States to build a large research programme at another university.

Rob recalls that communication became difficult with lab members who stayed behind, and the project’s momentum flagged. It is best if those members move into new labs to get local support, he says. He also notes that moving can be more attractive if the lab head ensures that downtime for experimental work is minimized. “That there is going to be huge down-time is a fallacy,” says Rob: his lab members who moved were running experiments in about three weeks. “We waste a lot more time doing the wrong experiments than we did moving.”

Now what?

Once you decide to switch between laboratory groups, how do you ensure it’s not ‘out of the frying pan, into the fire’? When looking for a new lab home, you must put your best foot forward to impress that group. But you must also critically evaluate your potential new lab mates and adviser.

Do your homework on groups that interest you: find out their publication history, assess their resources and equipment, and see how successful former lab members have been. Then begin conversations with

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TRADING PLACES

Moving a lab between universities can be difficult — both physically and emotionally, says Rob, a biochemist who moved his lab recently. He and other lab heads offer these tips to smooth the transition.

- 1 Tell your group as soon as possible. Avoid making a vague announcement that could create rumours or panic. Get lab members’ input on your decision.
- 2 Speak with lab members individually about what is best for them. Keep workers informed at each step. If budgets allow, have workers visit the new location.
- 3 Realize that you may lose a substantial portion of your group. Anticipate your re-staffing needs.
- 4 Make arrangements to get your new lab up and running as quickly as possible. If you need major renovation or new equipment, consider delaying the move.
- 5 If you decide to support workers staying behind, set clear timelines for research and salary endpoints. **K.P.**

those groups and determine how you might fit into their research (see *Nature* **422**, 784–785; 2003).

During his visits, Weber says he asked himself a number of questions: “How is the team? How is communication? Do they help each other? Is the supervisor open-minded when you discuss the project you might do or are they strict about it?”

Samantha Zeitlin, a postdoc at the University of California, San Diego, says her priorities changed when she began looking for a new lab. Her former adviser was thinking of retiring and she needed a place to finish her project and publications. “I had to stay local,” she says. “I picked my new adviser because she was really open to my project. She also had money and space.”

Determined to finish her original project, Zeitlin made it her top priority to find a lab that would support that effort.

Drahl also had a slightly different set of criteria when choosing a graduate adviser the second time around. She looked for a lab with stable funding, successful graduates and teamwork. “The research was definitely a factor, but I was looking more at a cluster of practical needs.”

You also have to convince a new adviser to take you. Drahl made sure to point out her assets — a fellowship from the National Science Foundation that would cover some of her salary, and a deeper knowledge of biochemistry that would help in some of the lab’s collaborations. Zeitlin adds that you need to take yourself seriously, so that others will too. “Don’t wait until you have that look of desperation in your eyes,” she says.

If you decide to switch between fields or programmes, be prepared to play a bit of catch-up by reading and doing extra coursework. Drahl sat in on classes to absorb more organic chemistry and relied heavily on the technical guidance from her new senior lab mates.

Added bonuses

Although changing labs may seem like a setback in a young science career, many switchers say the relatively short time lost is usually worth the outcome. Anand, who not only switched graduate programmes, but also later moved with his new adviser to another university, says all the transitions have actually given him “the best of both worlds”. He says he has a much broader training in molecular biology, immunology and computational biology than he would have had otherwise.

Their transitions may have made for a rough couple of years, but Weber and Dupré both say that they would do it all over again because they now have exciting projects and a deep sense of ownership of their research. “Sitting at my microscope, I forget about everything else. I could talk about my project for hours,” says Weber.

Zeitlin has followed her chromosome-biology projects through many pitfalls during graduate school and two postdoctoral labs, but her enthusiasm for the science has kept her going: “You have to like what you are doing most of the time. If you are venting and whining every day, get out!”

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*Some names have been changed to protect privacy.