



Good track record with staff: Mildred Dresselhaus of the Massachusetts Institute of Technology with postdocs and students at a joint research group meeting.

## Stacking the deck

**Without doing the homework, choosing a postdoc position is a bit like picking a playing card at random. Karen Kreeger advises on how to come up trumps.**

**Y**ou're about to choose your first postdoc position, where you'll spend two or more years in a lab you may have never seen, with people you may have never met. How can you gain some knowledge about this important stop in your career?

Choosing the right lab and mentor can really affect your career, so it pays to do some preparation. The trick is to gather as much information as you can before you commit yourself to one place. Fortunately there are many ways to do this — using online resources, talking to past postdocs, interviewing present ones and, finally, visiting the lab.

### ON SCREENING

A good place to start is online. There aren't many formal, objective ways to judge a postdoc programme. But if you're looking in the United States, a survey by the US National Association of Graduate-Professional Students (NAGPS) due out this spring offers a chance to see what current graduate students and postdocs think of the programmes in which they are involved.

One advantage of the survey, says Audrey Elion, who is working on a PhD in psychology at Pennsylvania State University and is the legislative concerns committee coordinator for the NAGPS, is

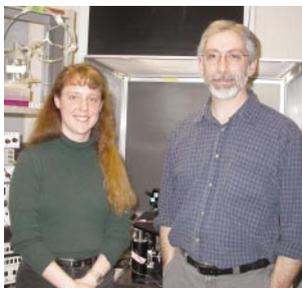
that it guaranteed anonymity. As a result, she says, "students have been very open with direct comments about the programmes".

There are other, more indirect ways to judge a principal investigator online as well. When Erika Faselow, a neuroscience postdoc at Brown University in Providence, Rhode Island, was researching fellowships, she looked over abstracts for grants that had been made to potential principal investigators to ascertain the breadth of work and support for their labs. She found these abstracts using the Computer Retrieval of Information on Scientific Projects (CRISP) database, which contains federally funded biomedical research projects conducted at universities, hospitals and other research institutions and is managed by the US National Institutes of Health.

Once you've narrowed your choices down, the next step is to go to the prospective mentor's website and look in more detail at their research and publications, suggests Mildred Dresselhaus, institute professor of physics and electrical engineering at Massachusetts Institute of Technology in Cambridge. "I would recommend making a small investment in checking out the technical content," she advises. This way, you'll be able to see whether you will be learning about subject matter that interests you.

The next step is preparing to talk to principal

Online research pays off: Erika Faselow and her mentor at Brown University, Barry Connors.





Speak to junior and senior lab members: Karen Spratt and her mentor Christopher Kemp at the Fred Hutchinson Cancer Research Center.

investigators and other people in their labs. Dresselhaus recommends a US National Academies' report from 2000, *Enhancing the Postdoctoral Experience for Scientists and Engineers*, as a good place to start; it includes a chapter on mentors.

Dresselhaus, who has had roughly 100 graduate students and 20 postdocs, sums up the report's advice: as well as checking the scientific-interest match, it is a good idea to look at the principal investigator's track record with staff. How long have people in the lab been there? How many postdocs and students have come and gone during the past couple of years?

Another question she suggests asking is, where have lab members landed jobs? You need to find out what became of people who were in the lab, not just one year later but also five years on. Ask if the principal investigator is open to any career path that you may choose — many academics try to steer all their protégés in the same direction. This may be especially important if you decide to go into industry or an alternative career such as writing or policy. Ask how the principal investigator has assisted postdocs in securing a job. Talk to more than one lab member: different personalities and relationships with the principal investigator will colour their comments.

Then there are questions about how research is conducted. Where is the lab's research headed? Will funding be available? Will you need to get your own?

Other types of questions relate to the atmosphere and working relationships in the lab. Does the principal investigator solicit postdocs' input, and listen to their ideas? Will the principal investigator discuss data with postdocs? To what extent do postdocs design experiments — in collaboration with the principal investigator or are they left to fend for themselves? Is it

a joint effort or does the principal investigator tell postdocs what to do? Do postdocs have a chance to work on their own projects? Will they have an opportunity to be first author on any papers?

Dresselhaus also suggests that prospective fellows ask themselves what they want to accomplish: for example, new skills, a new research direction, contacts, publications, conference attendances. Then ask principal investigators how they might help them achieve these goals.

#### TALK TO THEM

"The most important thing to do is talk to people," notes Deborah Stine, associate director for special projects at the US National Academy of Sciences. Conversations with potential mentors will help you make a better decision. But they're not the only people you should be talking to. Stine and others stress the need to unearth details about working conditions, as well as about the science done in the lab.

Where should you start asking about working conditions? Not at the top, says Karen Spratt, a postdoc at the Fred Hutchinson Cancer Research Center in Seattle. Instead, she recommends approaching junior lab members. "A lot of the time what you hear from the principal investigator is totally different from what you'll hear from the student or postdoc in the lab," she says.

It is a good idea to visit the lab before accepting a position, if possible, to get a feel for the way the principal investigator interacts with other members of the lab, as well as how the lab members work together.

It's not always what people say, but how and where, Spratt adds. "If you talk to someone in the lab and they say, 'Let's go down the hall,' that's a clue that there could be something wrong or some problem with other people in the lab."

Another way to learn about a prospective mentor, adds Fanselow, is to see how they interact with others at professional society meetings. "If they're giving a presentation, go to those," she says. "If they're giving a poster, watch them interacting with people to see what they're like."

This works both ways: when Fanselow gives a presentation, she takes note of how prospective colleagues relate to her. She also talks to past and present lab members at society meetings.

Even though publication record and scientific reputation are important factors, an equally important element is 'chemistry', or the way people interact, say Dresselhaus and Spratt.

Fanselow agrees about the importance of matching up the principal investigator's management style with the way you prefer to work. "Some people really like a hands-on approach and some people want to be left alone," she says. "It's probably hard to tell that, but you want to have a feel for whether they're going to let you do your own thing."

In the end, what makes the relationship between postdoc and principal investigator work is more about the subjective and intangible than the objective and measurable. But conducting background research, visiting labs and talking to past fellows can help prospective fellows take the temperature of both the subjective and the objective.

Karen Kreeger is a freelance science writer based in Philadelphia.

#### Web links

The 2000 National Doctoral Program Survey

♦ [survey.nagps.org](http://survey.nagps.org)

Computer Retrieval of Information on Scientific Projects

♦ [crisp.cit.nih.gov](http://crisp.cit.nih.gov)

Enhancing the Postdoctoral Experience for Scientists and Engineers

♦ [www.nap.edu/catalog/9831.html](http://www.nap.edu/catalog/9831.html)