

How to Navigate Finding a Lab: In 3 “Easy” Steps

By Daniel Macaya

Step 1: Arrange meetings to talk with a few PIs whose research interests you. Remember to start this early, since professors will be getting lots of emails from students during the first months of the semester. You may have to wait a month to meet with them before they have time to fit you into their schedule.

If your initial email goes unanswered, don't take it personally and don't give up! Some PIs get very large volumes of email. Try resending your original email, leave a voice mail message, or ask advice from a current student in their lab who may be able to provide some inside information. For example, for some PIs, the best way to get on their calendar is to contact their assistant.

During your first meeting, talk to the PI as well as grad students in the lab to see if you would fit well in that environment. The actual research project is only one part of your experience and training as a scientist. There are many other important factors to consider.

Some of the following questions will be more relevant to ask grad students, the PI, or both so use your best judgment. Obviously, something that should come out of the first meeting is if the PI is in a position to take on new students.

Related to the PI:

-How accessible is the PI? (Will you get to meet with them frequently to discuss the direction and progress of your work, are they on top of knowing what is going on with in the lab?)

-Is the PI able to help you with your career goals? (Will they expose you to grant writing, can you do an industrial internship, and do they have a history of building start-ups?)

-Do you think they will be able to help you stay motivated when your research project encounters the inevitable challenges?

-Does the PI have tenure? (Important since before tenure there is an increasing demand to produce results which is good for publications but can be very stressful if you are trying to take classes at the same time)

-Has the PI taken on HST MEMP students before? (Do they understand the course and clinical requirements; will they allow you to take a few classes a semester?)

Related to the lab environment:

-How involved is the PI with the day-day functions of the lab? Will you have other students/post-docs/lab managers to turn to when you need help or guidance?

-What is the culture of the lab? In general is it 9-5, 5-9, or around the clock? Is there a lot of collaboration between students?

-How well maintained and organized are the lab facilities and student offices?

-What is the proportion of grad students: post-docs: other students in the lab?

-What resources are available in the lab (machines, etc)? If need be, how easy is it to access other equipment not owned by your group?

How often do group meetings take place and how often will you be presenting at them?

-How long does it take students to graduate?

-Do students get sent to conferences?

-Are the students generally happy with the facilities, colleagues, project, and PI?

-How large is the group and will the PI be able to devote enough attention to you? (This becomes important for things such as writing articles since the PI may be too busy to get to your work for a few months!)

Related to research projects:

-How flexible is the PI with respect to the project that you choose and the directions it follows?

- What knowledge and skills do you have that will benefit the project? (Although, this should not limit the project you choose. More important is your willingness to learn new techniques and knowledge)

- What knowledge and skills will you need to acquire to make the project a success?

-Does the actual work you will be doing interest you? (For example, you may enjoy cancer diagnostics but hate the nanofabrication required by the project)

- Is the project of great value to the PI or more of a side shot? (This will help with both motivation and funding)

- Is the project a new area for the PI or does it build upon well-established previous work?

-Is the PI capable of guiding your project towards completion if things don't work out as planned? (e.g. what is Plan B for the research if the results are not as anticipated)

Related to funding:

-How committed is the PI to making sure you are always funded? Will you have to TA?

Step 2: Thank the PI for their time. If you are interested in their work and like their lab, ask them what the next steps should be. Possibilities include, but are not limited to, scheduling a follow up meeting, meeting with other researchers in the lab, attending a lab meeting as a visitor. When you are ready, explain that you would like to set up a rotation in their lab or that you want to join their lab entirely. At this point, having a fellowship or mentioning that you have applied for fellowships will work in your favor. Not only will it help to fund you but it shows the professors that you are looking ahead and are potentially a good planner of your career.

Rotations are a low commitment way to see if you actually like working in a specific lab. You may or may not get funding from the PI for this and you will most likely be working under a more senior student on a piece of their project. It is also a way to pass some time if funding is not available in the lab and to show the PI that you will be a valuable asset to their lab. Note: Some professors are hesitant about offering rotations since it shows that you are not very committed to the lab or project.

Don't be discouraged if a PI is not able to have you in their lab. There are many reasons for this including funding and self imposed limitations on group size.

Step 3: Once you and your PI think that both of you are a good match for one another, you should have a verbal or preferably written agreement that you have joined the lab and the PI is committed to having you funded one way or another.

Note: This document is a work-in-progress. We would greatly welcome your feedback and suggestions to djm89@mit.edu, so that we may improve future versions of this document.