THOUGHTS ON CHOOSING A RESEARCH MENTOR

Before you begin, you may want to watch a (15 minute) YouTube video on this topic.

There are three major factors to consider when selecting a research group:

- The research program
- The personality and mentoring style of the Principal Investigator (PI)
- The research environment

These factors vary in importance depending on your own personality and your level of training. For instance, undergraduates and summer students can be flexible in their choice of research projects but often prefer mentors who will provide substantial guidance. In contrast, graduate students and postdoctoral fellows may choose a mentor based largely on the science and publication record. While it's appropriate for the research program to be a primary consideration for advanced trainees, you must select a research group where you expect to feel comfortable and where the PI meets your individual needs.

Finding the right research mentor is critical to a successful and enjoyable research experience. Here are some tips to help as you navigate the process of searching out labs, evaluating research programs, and reflecting on your own mentoring needs.

THE BASICS

The PI as your primary mentor

Although many members of the research group may guide experiments, offer advice, and give feedback on your projects, the PI or head of the research group will serve as your primary mentor. Thus it is critical to ensure that the PI you choose will provide the type of mentorship you need and want.

What is a mentor?

The best mentors are advisors, coaches, counselors and supporters all at the same time. They are experienced scientists who guide your research, but also challenge you to develop your independence. A good mentor will help you define your research goals, and then support you in your quest to achieve them. He or she will share knowledge, provide encouragement, and hopefully inspire you. In addition to promoting your

research, your mentor should help you to develop your career goals and construct a scientific network. Above all, your mentor should be someone you trust to always keep your best interest in mind.

What should you expect from your mentor?

It is the responsibility of your mentor to work with you on your scientific development. It is reasonable to expect that the mentor will:

- Help you to define your training goals at the outset and evaluate them at regular intervals throughout your training
- Meet with you regularly, one-on-one, to discuss your progress towards these goals
- Listen to you and to your ideas
- Provide constructive and timely feedback on your scientific work
- Support your growth through encouraging training opportunities and professional development
- Introduce you to scientific colleagues, so you can begin to develop networks of your own
- Acknowledge your contribution to the research, for example, through authorship on publications

MAKING CONTACT

How should you approach a prospective mentor about a position in his/her research group?

Once you've identified a potential mentor, you should read about the research group on the Internet and read at least several of the group's recent publications. The next step is to send an e-mail introducing yourself and expressing interest in a position. You should attach an updated curriculum vitae or resume to this e-mail, along with a letter of application detailing your research interests and reasons for applying to his or her research group. Make sure that this letter is specific for the individual mentor and not a generic letter sent to multiple groups. You may be asked to schedule a visit or participate in a telephone interview. To prepare for the interview, review the group's Web site and recent publications. Be prepared to discuss your background, scientific and personal interests, and your career goals. Also, be ready to talk about any specific skills or knowledge that make you a good match for the research group. Most mentors also request that candidate postdoctoral fellows give a formal research presentation during the interview.

What questions should you ask during an interview with a potential mentor?

The interview is also a time for you to learn about the mentor and his/her research

group and determine if they are a good fit for you, both scientifically and personally. Take advantage of this opportunity to learn as much as possible about the PI and the research environment. In particular, it is important to determine whether his or her approach to mentoring matches your needs and expectations. See questions for potential mentors for examples of good questions to ask.

Talking to current members of the research group

In addition to interviewing with the PI, you should ask to meet with multiple members of the research group. If they are not available, you should arrange to talk with them by e-mail or phone. They are your best resource for determining the personality of the research group and the mentoring style of the PI. For instance, they can tell you how accessible the mentor is, the general climate of the research environment, and how much independence is typical for trainees there. For examples of questions you may want to ask, see sample questions for group members. Not everybody is comfortable openly discussing reservations about their research mentors, so listen carefully to the words they use and pay attention to body language during these conversations. Follow up on their responses; seek specific reasons why a current student or fellow does or does not recommend his/her mentor.

MAKING THE RIGHT CHOICE FOR YOU

Making an informed decision

The more you can learn about a research environment and the PI's management style, the better prepared you will be to make an informed decision. See evaluating potential mentors for a comprehensive list of questions to consider before making a final decision. Note that the perfect mentor for one student is often an inappropriate match for another. Furthermore, it is unlikely that any single mentor will meet all of your needs, so you will need to figure out which considerations are the most important for you. This requires self-reflection. For instance, think about whether you feel strongly about having independence, and then consider whether the students and fellows in the group are sufficiently independent. Similarly, consider whether you would feel comfortable working in an extremely competitive field or whether you would prefer a less intense environment. There are no right or wrong answers to these questions, as long as you are honest with yourself. See questions for self-reflection for sample questions you should ask yourself before committing to a mentor.

Getting the most out of your mentoring relationship

Even the best mentor-mentee relationships require effort. In order to get the most out of your mentor, make sure that you are holding up your end of the bargain. Always

behave professionally and courteously. Take the initiative to schedule meetings. At each meeting, arrive on time and prepared for discussion, with relevant data or articles in hand. Finally, recognize that sometimes even the best research mentors will meet only a subset of your needs. As you advance in your training, you may want to seek out additional mentors to fill the gaps. Alternate mentors may include other scientists in your research group, additional researchers in your field, or people in your network who have careers that interest you.

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