



Choosing a Graduate Adviser

After enrolling on a graduate program in Biomedical Sciences, you must select a dependable and supportive adviser who can help you achieve your learning and training goals. As a graduate student, you will become an apprentice that will work with an experienced scientist that should provide timely and constructive critiques on your attempts to become an expert in a particular subject. Besides professional expertise, the adviser also facilitates valuable resources like laboratory space, equipment, supplies, funding and employment to support your graduate education. As part of your training, the adviser will assist in the creation of professional networks to advance your career, write vital letters of recommendations and may use personal and professional connections to place you in your next job. Therefore, having an adviser you can work well with is essential for a successful graduate education. This document indicates some important aspects to consider while evaluating potential advisers.

1. Know yourself - In order to find an adviser and a laboratory that are a “good fit” for you, you must have a good idea about the your career goals, your research interests, your personality and your work style.
 - a. What are your main motivations for obtaining a graduate degree in Biomedical Sciences?
 - i. Do you see yourself pursuing an academic career or is it your intent to work for industry?
 - ii. What about a non-traditional science career?
 - iii. What are the job market projections for people with your expertise?
 - iv. What research topics are more compatible with your career goals?
 - b. What areas of research appeal to you?
 - i. Which laboratories are doing research in your area of interest?
 - ii. Which research topics do you enjoy talking about?
 - iii. What kinds of experiments would you like to design and execute?
 - iv. Are you committed to learn more about a particular topic by reading journal articles, attending seminars, going to specialized scientific meetings and reaching out to meet subject matter experts?
 - c. Personality and work style conflicts are common reasons given by students that leave their thesis laboratories before completing their degree. Therefore, it is important to know your predilections before you evaluate possible incompatibility issues between you and your prospective mentors.
 - i. Do you prefer a mentor who is involved in all aspects of your lab work or do you rather solve the problems on your own?
 - ii. Do you respond better to encouragement or to criticism?
 - iii. Would you prefer a large laboratory or do you work better in smaller groups?

2. **Evaluate your affinity with the adviser** – Finding someone with whom you may be able to build a strong professional relationship is one of the most important criteria for a graduate adviser. Your thesis or dissertation will be one of the most important tasks of your life for the next few years and working with an adviser you cannot get along with will add an unnecessary level of complexity that may affect your ability to thrive as a graduate student. In addition, the adviser will be instrumental in finding you a job in the future and the quality of your relationship may be reflected in the tone or the contents of the letters of recommendation written on your behalf. In order to assess the adviser's personality, you may consider asking the following questions to the adviser and to graduate students or research personnel currently working in the laboratory. Pay special attention when the answers do not match.
 - a. Expectations for graduate students – What is expected of the graduate students in the laboratory?
 - b. Communication style – Is the adviser confrontational or non-confrontational? Is the adviser flexible or inflexible? Does the adviser get upset or scream at laboratory members and then acts as if nothing happened?
 - c. Temperament – Is the adviser irritable or calmed? Is he or she an optimist or a pessimist? Is everybody treated equally or are there favorites?
 - d. Motivational techniques – Are the students motivated by praise and encouragement or by criticism and blame?
 - e. Approachability – Do you feel anxious while talking to the adviser?
 - f. Level of independence – Are the students expected to develop their own projects or is the adviser involved in the process? Does the adviser implement a “succeed or fail” philosophy or does he or she offer suggestions and assistance when a project isn't going well?
 - g. Honesty and trust – Can you believe what the adviser says? Does the adviser have your best interest in mind? Do you respect this person?
3. **Understand the adviser's knowledge, expertise, academic and mentoring records** – Look for an adviser with a strong background in the areas relevant to your research interest. Ideally, you should work with a respected scholar, with a strong funding and publishing record, whose students are sought after by other academics and by people in industry and who is highly enthusiastic about training students. Look for people who love science and are passionate about their research.

Renowned scientists would have a track record of publishing their work in respected journals and their papers describe a series of experiments designed to test a particular aspect of their research topic. These publications become public domain and are used by other scientists to expand upon their research. Authorship in “high impact factor” journals and presentations to professional societies indicate that the researcher's work is well received. Many established scientists also have a good record of obtaining grant support from major public and private research foundations. Grants are highly competitive and are allocated based on how other scientists' judge this person to have made significant contributions. An adviser with a good grant record will have a well-funded laboratory but may be unavailable to guide a student due to the time commitments associated to writing and managing grants and may depend on post-doctoral students to mentor graduate students and to operate the laboratory on a regular basis.

Less known and younger scientists may lack the grant support described above but may be highly energetic and more conscientious about their research and teaching progress. They often work at the bench to accelerate their research's advancement, may be more sympathetic to external issues affecting the student's performance and are more aware of contemporary career issues in Science.

Some questions to consider while evaluating a prospective mentor's:

- a. Research area - Are you interested in this research area? Does it fit your career goals? Is there a project that you can complete in a reasonable amount of time? Is the adviser excited about your possible project?
- b. Mentorship record - How many graduate students has the adviser had? How many graduated with the degree that you are obtaining? What is the average time to complete the degree? What are the former students doing now? Is the adviser proud of them?
- c. Funding - Is your research topic related to one of the mentor's funded grants? If not, how will your project get financed?
- d. Publications - Is the laboratory publishing in well-respected peer-reviewed journals? How often is the laboratory publishing? (Use PubMed from U.S. National Library of Medicine to search for the mentor's publication and funding record.)
- e. Scientific reputation - Did the adviser receive graduate and post-graduate training in laboratories with good scientific reputation? Is the adviser well respected by peers? Are his or her scientific ideas shared by others in the field?
- f. Accessibility - Is the professor present at the institution on a regular basis or does he or she have a heavy travel schedule? Can you speak with the adviser if necessary or he or she overwhelmed by other academic commitments? Is this faculty member planning a sabbatical? Is there a doubt about whether he or she will be granted tenure?
- g. Networking - Does the mentor collaborate with other research groups? Is there a good network of contacts that can help you advance in your career?
- h. Laboratory management and productivity - Are the students expected to assume administrative duties that the adviser failed to complete? Is this a small or a large laboratory? Is it well equipped and is there enough physical space for you to work in? Is essential equipment readily available at a reasonable distance? Is there intra- and inter- laboratory collaboration or is every person on his or her own? How safety conscious is this laboratory? Is the laboratory organized and clean? Do laboratory members have cleaning duties? Are there protocols for keeping the laboratory running smoothly?

References:

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