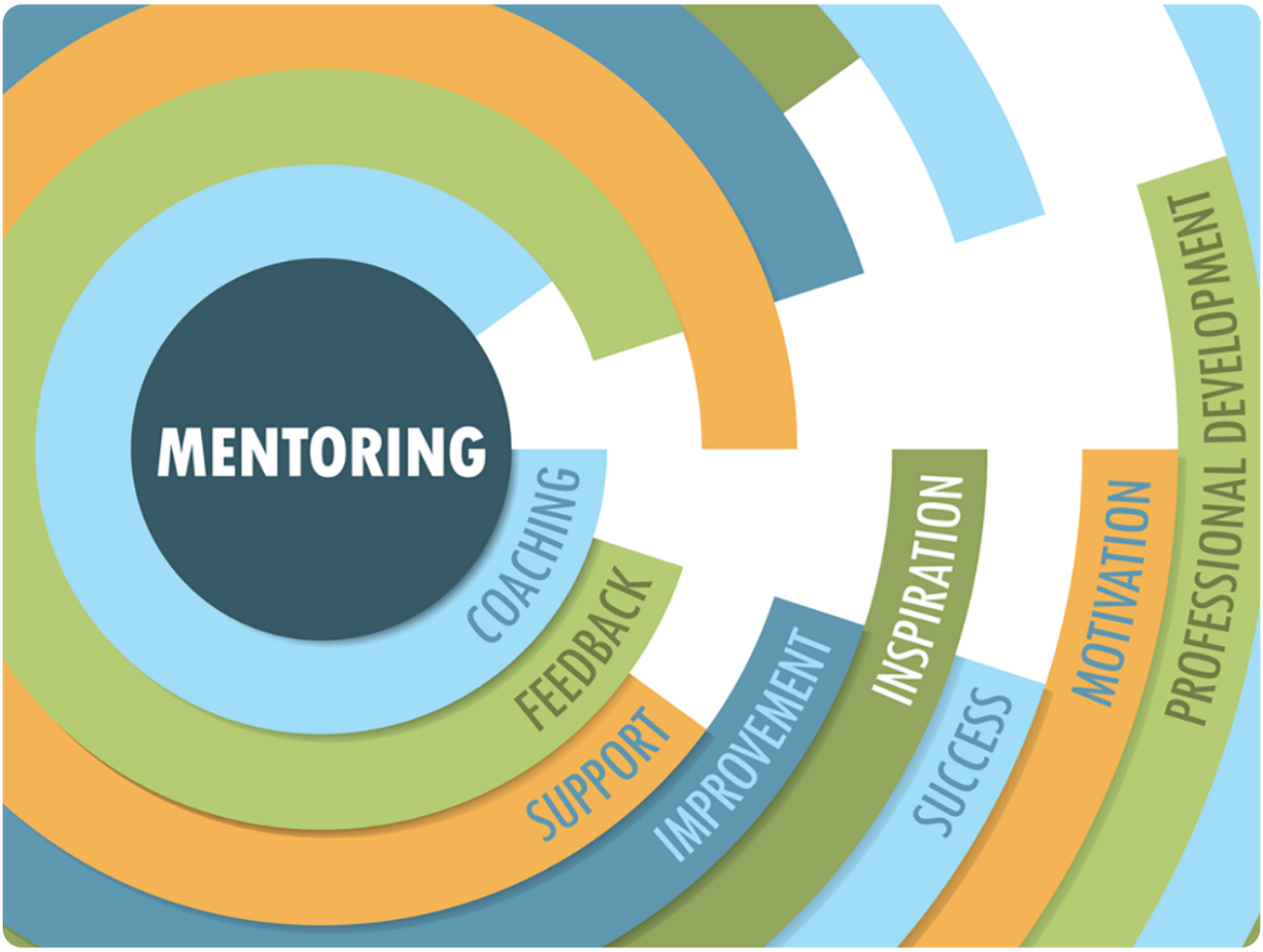
Science Societies

Building mentorship relationships in graduate school

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Mentors can provide numerous benefits, but what do you need most? Develop a short list of priorities you would like to focus on during your graduate program. Depending on your current experience and skill set, these goals may include improving technical skills, networking, or preparing for your career. Photo courtesy of Adobe Stock/treenabeena.

Mentorship, the guidance provided by a more experienced or knowledgeable person, is an essential part of career development inside and outside of academia. Even so, a **2019 Nature survey** showed that career guidance and advice was the biggest area of concern for graduate students with 60% stating they arrived at their current career decision by their "own internet or other research" (Woolston, **2019**; find the full survey results here: **http://bit.ly/3NnXj8X**). A further 29% of graduate students reported seeking advice from fellow colleagues. When it comes to career development, graduate students have the opportunity to build their own mentoring relationships outside of the one they have with their advisers. Because the reality is even though many advisers are amazing scientists and mentors, they are only one person and often have other responsibilities and obligations. Therefore, building a small "team" of mentors that can assist you in developing networks, technical skills, and knowledge while improving confidence, enthusiasm, and career satisfaction will be the most effective mentorship strategy to have in graduate school. Below we provide an approach to building mentoring relationships.

Finding and Building Mentorship Relationships

The first step to finding and building mentorship relationships is to identify your own needs first. What you need from mentorship will depend on your current skills, where

you are in your career, and where you want your career to take you. Develop a short list of priorities you would like to focus on during your graduate program. Depending on your current experience and skill set, these goals may include improving technical skills, networking, or preparing for your career, whether that be in industry, academia, government, etc. For those seeking a future in academia, this could include grant-writing experience, seeking out collaborations and co-authorships, getting involved in committees on campus, or seeking experience with lecturing. For those seeking a future outside of academia, this could include seeking internships, building your network in industry, or focusing on improving technical skills. If you do not know exactly what career path you want to take yet, you can prioritize finding a few mentors that can share their experiences and help you identify which paths would be the best for your career goals.



Informal mentors could include a previous or more senior graduate from your lab. Photo by Jay Oliver and courtesy of Flickr/UGA CAES/Extension via a CC BY-NC 2.0 license (***https://creativecommons.org/licenses/by-nc/2.0/****).*

The second step to finding and building mentorship relationships is to identify your current mentorship opportunities. During graduate school and later in your career, there are formal mentorship structures in your workplace to engage with as well as opportunities to develop informal mentorships. It is your responsibility to find and use these opportunities. You may find that people in your formal mentorship structure in graduate school may be well suited to helping you work towards many of the goals you have identified.

The formal mentorship structure provided by your program usually includes your principal investigator (PI)/adviser, committee, and the graduate education personnel on campus. Your adviser is the head of your formal mentorship structure. They provide the traditional one-on-one involvement that most people think of when they think of mentors. They work with you to help schedule your degree path, develop the objectives and directions of your research, suggest opportunities, and guide you toward the completion of your research and degree.

Graduate students also have a committee of experts that provide feedback on project development, technical skills, and methodologies. They often provide feedback on writing, recommend opportunities, and generally guide graduate students to the completion of their degree. Some programs have largely pre-established committees while others encourage greater involvement in the selection of committee members by the graduate student. Regardless of your program, it is wise to evaluate your committee members and determine whether they have experiences or perspectives that align with what you are seeking from mentors.

In addition to your adviser and committee, there is often personnel associated with your graduate program who can help guide you through your program and teach you valuable skills for your career. This can include everyone from the graduate program administrator who can advise you on timelines for graduation and the submission of graduate documents to the accounting personnel who can guide you on managing project funding and university purchasing requirements.

It is important to not overlook the opportunities for mentorship in the formal mentorship structure; however, it is unwise to focus exclusively on formal mentorship structures. This is especially true according to the 2019 *Nature* survey, which found that nearly half of graduate students report “spending less than an hour one-on-one

with their supervisor each week" (Woolston, **2019**). Likewise, as valuable as their expertise may be, committee members are often busy with their work and are limited in the time they can provide; therefore, we recommend having informal mentors in addition to your formal mentors.

Seeking potential mentors outside your formal mentor structure will increase the perspectives and experiences you are exposed to while reducing the demands on each mentor. Informal mentors could include a previous or more senior graduate from your lab, a post-doc that works on a topic you're interested in or someone who received their degree from a lab or university you are interested in, or a researcher across campus who obtained a fellowship to collaborate with another university abroad. It could simply be a scientist you met at a conference whose career path you admire. Informal mentors are individuals you seek to learn from outside formal mentorship structures in your career.



The final step of finding and building mentorships is to approach the potential mentor and begin to build a relationship with them.

The process of identifying potential mentors may seem like a daunting task, but the process is simple once you've identified what you would like to accomplish as a mentee. Ask yourself the following questions: Is this a person you admire? If so, does this person have an experience, skill set, or perspective that aligns with your career goals? Just because you admire a person doesn't mean they have something useful to

your goals to learn from. Does this person enjoy their work? Advice from someone successful but ultimately unsatisfied with their work life is unlikely to lead you to the career you seek. Does this person seem like someone I could get along with? Mentorships rely on effective communication and aren't supposed to feel like a burden or a chore. Finally, ask yourself: Is this someone capable of guiding me? They may have the career of your dreams and get along well with you, but they may not be able to provide the kind of objective guidance that fosters true mentorships. Answering the final question may not be possible prior to getting to know the potential mentor, but it is essential to successful mentorships.



The Societies' Annual Meeting can be a great place to connect with potential mentors.

The final step of finding and building mentorships is to approach the potential mentor and begin to build a relationship with them. Often, graduate students are reluctant to reach out and seek mentorship because it feels like they have nothing to offer the mentor. This is not true. Mentors often describe mentees as contributing to career satisfaction, exposing them to new ideas and methodologies, expanding their networks, and growing their research lab. Word of good mentors gets around and can attract great new students to the mentor. So, accepting that you contribute as a mentee and that everyone was once in your shoes can reduce anxiety over approaching a potential mentor. Since you have already identified what you could learn from this person, it should be relatively easy to approach them. Reaching out to a potential mentor is as simple as letting them know what you are interested in learning from them and asking if they'd be willing to discuss it with you. We've included an example below.

“Dear [Name], I’m a graduate student studying [topic]. I saw you [reason you are interested in this potential mentor, such as a recent seminar talk]. I am really interested in learning more about [what you hope to gain from them]. Would you be willing to discuss it over coffee sometime? I look forward to hearing back from you.”

As you can see, you do not have to formally ask anyone to be your mentor but merely ask for some of their time to hear about their experiences and advice you may be seeking. Often, an informal conversation over coffee can develop into a more structured mentorship relationship.

Maintaining Mentor Relationships



Take advantage of the career development activities and workshops offered by your graduate school, such as writing workshops, information sessions about careers outside of academia, interview preparations, how to negotiate job offers, and informal social-networking opportunities. Photo courtesy of Adobe Stock/kasto.

While there are clear benefits to both mentors and mentees, maintaining effective mentorships requires both parties to invest time and effort. This requires mindfulness of mentorship etiquette and mutual respect between mentors and mentees. Below are

some mentorship etiquette recommendations.

Mentee Etiquette

Out of respect for the experience and limited time of the mentor, it is essential for mentees to be mindful of their role as a mentee. It is generally the responsibility of the mentee to take on much of the initiative in the mentorship. Not only should mentees be the ones to reach out to the mentor to schedule a time to talk or to meet up with each other, but it is also the mentee's responsibility to lead the discussion with concise communication and clarity of expectations. This means that it is the mentee's responsibility prior to meeting with their mentor to identify what they need, consider possible solutions and routes of addressing the issue at hand, organize their thoughts and concerns, consider how the mentor might be able to help them, and go into the meeting with a teachable mindset. While meeting with their mentors, mentees should actively listen to what they have to say, be open to perspective and potential guidance, and be grateful for their mentor's time. After a meeting, mentees should follow up with their mentor.

It is important to understand that mentors are not miracle workers. They can simply provide their perspective and insight. It is your responsibility to communicate what you need from your mentors and be understanding if they are unable to provide it. Additionally, we strongly encourage mentees to communicate with their mentors regardless of their schedule and workload. Using a tiered mentorship structure, with many mentors to reach out to at different stages of career, will be the most beneficial for you during graduate school. However, your formal mentorships should take precedence over your informal mentorships using this kind of mentorship structure.

Mentor Etiquette

Mentorships are not the responsibility of the mentee alone. Mentors should also listen to the needs and concerns of their mentees, get to know them and their goals, and consider how their experience and skill sets might be useful or applicable to their mentee's situation. When mentees reach out with a concern or a request to meet, responding in a timely manner will demonstrate the respect you have for their time and that you value being a mentor to them. In addition to spending time with your mentee, you could also keep an eye out for opportunities to nominate them for awards or scholarships or send them information on helpful workshops or even grant opportunities. When mentees seek guidance for a situation, mentors should take a moment to consider whether this is an opportunity to offer to assist the mentee, provide advice on how to handle the situation, or provide a different perspective and allow the mentee to come to their own conclusions about their situation.

Sometimes what mentees need more than solutions to their problems is the opportunity and guidance to create their own. We encourage mentors to respect the decisions and obligations of their mentees. Good mentors are able to provide perspective and experience without trying to advise a mentee on a direct choice of action. They allow the mentee to come to their own conclusions and respect that the mentee is ultimately responsible for their own decisions. You may not have handled a situation or made the same decision as your mentee, but that does not necessarily mean that the mentee is



The most prominent opportunity for career development hosted by ASA, CSSA, and SSSA is the annual Graduate Student Leadership Conference, which is aimed at teaching graduate students how to be ethical leaders, effectively work in groups, and foster inclusion at their workplaces

wrong or doesn't value your guidance. Accepting that your mentee will make the best decisions that they can demonstrates clear respect for them as individuals.

Building Mutual Respect: Respect for Mentors and Mentees

Mutual respect is the foundation of effective mentorships. As we discussed in our suggestions to mentees and mentors, respect for each other's time, experience, and perspective is essential. Communication and active listening between mentors and mentees are key ways to express mutual respect. Another is to be mindful of the obligations and responsibilities of each other. As much as mentees need to remain mindful of the obligations and commitments of their mentors, mentors need to be just as mindful of the obligations and commitments of their mentees.

Tips for Mentorship Success

There are a number of different ways to develop your career outside of formal and informal one-on-one mentorship relationships. Typically, the graduate school at your institution will host a range of career development activities and workshops throughout the year, such as writing workshops, information sessions about careers outside of academia, interview preparations, how to negotiate job offers, and informal social-networking opportunities. These opportunities are designed to assist you throughout your graduate studies and help you achieve your career-related goals—take advantage of them.

Outside of your academic institution, there are also a wide variety of events and workshops to aid your development. The Societies provide numerous avenues for graduate students to obtain mentorship. The most prominent opportunity for career development hosted by ASA, CSSA, and SSSA is the annual Graduate Student Leadership Conference, which is aimed at teaching graduate students how to be

ethical leaders, effectively work in groups, and foster inclusion at their workplaces. In addition, the annual Graduate Student Networking Session at the Annual Meeting brings together mentors from various career sectors with graduate student mentees. This session gives graduate students the opportunity to ask those further along in their careers for insight into what it's like to work in academia, non-profit organizations, industry, or government positions. A complimentary session hosted with the Early Career Members Committee this year connected graduate students and early career members with panelists from various fields to improve transparency in the application and job negotiation process. Finally, the Graduate School Workshop at the Annual Meeting is an opportunity for graduate students to provide insight to undergraduate students interested in attending graduate school.

As you can see, there are numerous ways to obtain career guidance outside the formal mentorship structure. If you have established mentors and a clear career path, this could be a good time for you to volunteer to be a mentor yourself to more junior graduate or undergraduate students. It is also wise to expand your mentoring scope outside your institution or field, such as collaborators at different institutions or even outside of academia altogether. Mentors can also be members of your community that you have formed a bond with that can help you navigate the more personal aspects of your life, such as making tough decisions and how to ensure you have healthy work–life balances. Don't undervalue the relationships you build with mentors and mentees during your time in graduate school as they will likely support you for decades to come.

Helpful resources

- Haynes, L., Adams, S., & Boss, J. (2008). Mentoring and networking: How to make it work. *Nature Immunology*, **9**, 3–5. **https://doi.org/10.1038/ni0108-3**
- Lee, A., Dennis, C., & Campbell, P. (2007). Nature's guide for mentors. *Nature*, **447**, 791–797. **https://doi.org/10.1038/447791a**
- Woolston, C. (2019). A message for mentors from dissatisfied graduate students. *Nature*, **575**, 552–551. **https://doi.org/10.1038/d41586-019-03535-y**

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