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Guide for Supporting Diverse Career Exploration of Trainees

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Academic Career Forum

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ABSTRACT

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In the 1960s, 60% of biomedical PhDs went on to tenure track faculty positions. Today, that fraction is estimated to be 10%-15% of graduate students. Similar trends exist across the biological sciences. This shift means that over the years, many of the students and postdocs in your lab will also explore different career options, and as a good mentor, being able to support them is important, no matter which career track they choose.

One of the challenges for professors is that they are deeply familiar with the academic track, but are often at a loss in recommending resources and steps for the trainees who are not 100% certain that they will become faculty as well.

This guide is meant to be a starting point. It can be easily shared with the trainees and offers simple tips for career exploration. The goal is not to steer trainees away from academia, but to help them figure out whether academia is the right fit, and if not, how they can explore the many different options that are available to them to find a rewarding and satisfying path.

(Image: [Flazingo Photos](#), "Newspaper - Careers", CC BY-SA 2.0)

GUIDELINES

This guide is based on our work as a group of passionate academic and industry scientists for the Society for the Study of Evolution. Starting in 2015, we worked as a committee of volunteers to recommend steps to the society to better support career exploration of the trainees. After a report with a set of recommendation to the society, SSE funded a task force to organize a diverse careers workshop at the annual Evolution meeting. They have now run this [workshop](#) three times, starting in 2016.

Some times, faculty hesitate to encourage diverse career training because they feel that their mission is to train future professors. The FAQ below is meant to address this.

1. "Our lab is funded with taxpayer money to do research. Am I not abusing this funding and trust by having my student explore non-academic options, go to industry events, diverse career workshops, and so on?"

Supporting diverse career training is actually completely aligned with the NIH mandate and the goals of most national funders. Recognizing the new landscape facing new graduates, NIH has been [investing](#) in and encouraging better career support.

And more broadly, your role as a mentor is to train new scientists, whether or not they become professors like you. Society funds the education and training of so many new PhDs despite the fact that most will not be professors, precisely because scientists are needed and valued across a broad range of jobs, industries, careers.

2. "If my student or postdoc finds a job as a result of the career exploration, won't they suddenly leave the lab without completing the research?"

Career exploration is not a 1-hour exercise. It is a lifetime journey and you are helping your students and postdocs start thinking and exploring in a way that minimizes regrets and reduces their anxiety. In fact, trainees who feel more confident about their career prospects thanks to your support may be more energized about their research, more creative, and less likely to suddenly leave the graduate program or your lab because they are panicking over the future and unsure why completing their Ph.D. or research is going to be helpful for them if they do not plan to stay in academia.

3. *"My only experience is academia, how do I learn about nonprofits or industry?"*

Of course, it's great for you as a PI to learn more and to build a network that can help your students, but in terms of advice it's best to let students do informational interviews or talk with experts. That is to say, it's OK not to know how to advise students on industry and other careers, that's not your job, but also you can be of use when students come to you by pointing them in the right direction.

The good news is that there are plenty of people out there who are happy to talk to your trainees about their jobs, in all sectors. One of the most effective tools for career exploration is the informational interview.

4. *"Trainees only think about these other options when their research isn't going well."*

Career decisions are primarily driven by myriad factors, in particular professional experiences and interactions, and value systems, but are not shaped by objective success of papers, fellowships, etc. ([Gibbs K. and Griffin K., 2017](#)).

Furthermore, trainees who know where they're going are more successful in their current position - those who have clear professional goals are more likely to secure fellowships and publish papers ([Davis G., 2016](#)).

5. *"Career exploration increases time to degree. They need to focus on their research before thinking about career exploration."*

Students think about their careers starting in about third year, and they're considering lots of options, whether they tell you about it or not ([Fuhrmann C., et al., 2017](#)). Evidence suggests that ***structured*** career exploration does not increase time to degree, even when it includes an internship. There are myriad ways of exploring options (eg. informational interviews) that result in a smaller footprint on their time, and still get students there, suggesting exploration may decrease time to degree ([Schnoes A., et al., 2018](#))

Encouragement

- 1 Let the trainee know that you support them and are glad they are proactively thinking about their career and how to find the best fit for them.
- 2 Acknowledge that while you personally may not have experience in non-academic careers, you do know that there are many and that professional satisfaction is very much attainable both in and out of academia.
- 3 Tell the trainee that society pays for their training because as scientists they are valuable across a wide range of jobs and industries. They are valuable because they are trained as scientists, not because they are deep experts in a specific gene or molecule or technique. Many trainees start with narrow view of possible careers (e.g. academia, journal editor, industry). Help them appreciate the broad range of careers available. [For example, law firms and venture capital firms hire scientists at high salaries to work in questions around intellectual property and due diligence.]

Exploration

- 4 Ask if the trainee has filled out the individual development plan IDP (<https://myidp.sciencecareers.org>). If they have but long ago, suggest refreshing it as this is supposed to be done once every year or so. [Institutional recommendations for mentoring best practices](#) can be found at Mentoring Future Scientists spearheaded by the Future of Research. Best practices for mentors and mentees can be found in this Addgene blog - "[What makes a good mentor and 6 other faqs about science mentoring](#)"
- 5 Informational Interviews are very powerful in exploring what other scientists with a similar background are doing. The goal of such 15- or 30-minute meetings is to learn what scientists in different settings like and dislike about their jobs (industry, small teaching college, startup, NGO, publishing, funders in government and philanthropic foundations, etc.). It may be surprising how many people will respond and volunteer their time to share their experience and perspectives when someone reaches out to them. (LinkedIn is a fantastic tool for this.)

[\[Guide on informational interviews from Joanne Kamens\]](#)
- 6 Think of alumni from your lab or department with whom you can connect the trainee for an informational interview. If the trainee is a postdoc, suggest that they look up their PhD classmates on LinkedIn to see where they are now and to connect with them.
- 7 Many universities and conferences have professional development and diverse career panels; consider that as a factor when sending your trainee to a conference. In addition many universities offer mentorship programs, where trainees can be paired with alumni who have diverse careers and connections.

Resources

- 8 The Diverse Careers Workshop from the Society for the Study of Evolution has recorded many of the talks and made them and other resources openly [available](#). This is fairly broad training that should be helpful for any scientists thinking about careers.

Conferences/Societies with strong career training components: ASCB, SfN, Evolution, AAAS, SACNAS [need links]

Does your college/university have support for diverse careers? If so, they often have great resources (examples from UCSF <https://career.ucsf.edu/phds>)

The National Postdoctoral Association career resources page: <https://www.nationalpostdoc.org/page/CareerPlanning>



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