

Tips for Science Mentors

This document describes a number of strategies, techniques, and ideas that a science mentor can use to make the mentor-mentee relationship more productive, effective and rewarding. These ideas come from both current and previous science mentors.

Working with Mentees

- Be ready to adjust and adapt to your mentee's skill level and background
- Discuss successful work habits with your mentee and work expectations
- Discuss with your mentee goals and milestones for the summer/semester
- Recognize that the abstract/research plan that the mentee writes is to some extent wishful thinking. Help them to understand that what they say in the abstract may not happen in reality, and that's ok.
- Remember that not everyone learns the same way. Help your mentee figure out how he/she/they learns best (it might be different than what works for you)
- Have and show confidence in your mentee

Communication

- Establish regular weekly meeting times
- Provide continuous feedback to mentee, including gentle guidance but also let them think for themselves
- Check in often, dropping-by or wandering-by is helpful. More frequent discussions can help your mentee both explore possibilities and stay on track. Keep in regular contact
- Ask simple questions of your mentee, such as "what are you working on today?"
- **Listen** to your mentee, don't make assumptions
- Let your mentee know it's okay to ask really basic questions
- Communicate with your mentee's other mentors about progress and set-backs
- Minimize scientific jargon when talking to your mentee

Project Definition and Progress

- Define the project, and plan it together with the mentee
- Make sure the project fits both the mentee and the mentor's needs
- Pick a project that has an interesting result either way (if it "works" or doesn't work)
- Pick a project that has some relevance to society/bigger picture of topical area
- Get to the project itself quickly



- For an REU summer project, plan for a project that can be completed in much less time than 10 weeks, perhaps something you could do in two weeks
- Establish milestones for progress: set intermediate project goals and smaller milestones, and track progress
- Allow room for project modification if necessary
- Consider having the student fill out a work plan or for grad students, an Independent Development Plan (IDP). There are several IDPs online.
- Ask questions often to assess how well the project is going
- Convey to the mentee the larger scientific context of what may appear a narrow laboratory task. The mentee should be able to answer, “Why are we doing this?”
- Have your mentee give you a five-minute presentation using a whiteboard on their project to see how they are thinking about it. No PowerPoint slides allowed. Consider doing this monthly.

Environment

- Maintain a sense of humor and make it a bit fun
- Motivate your mentee
- Keep it simple and student friendly
- Create a welcoming atmosphere

Integration

- Make the mentee a part of your lab or project group. Include them in lab/social activities
- Connect with the mentee’s other academic programs and/or advisors
- Provide broader exposure to scientific world — introduce them to concepts in science and how the scientific community works, politically, socially, and in the context of the world. Think of it as bringing them into the community of scientists
- Make an effort to formally introduce your mentee to colleagues who might be good connections for them, professionally, going forward
- Encourage graduate students and especially postdocs to collaborate, so as to learn about writing grant proposals and papers
- Make sure to introduce them to younger scientists too, show them how the career transition is made

Professional and Career Development

- Encourage your mentee to present at conferences if they have accomplished work, to participate on society committees, to take leadership roles in your department
- Expect your mentees to give regular presentations in your lab group on journal articles, on a plot that they have made, on a problem they are having with instrumentation or data analysis
- Bring people in to talk about their careers in the consulting, Government, non-profit, and education to raise awareness about careers outside of academia. Hold a career panel for your department and serve pizza. Make it okay to talk about and consider possibilities outside of graduate school/postdocs/faculty positions, as the reality is that most students and even postdocs will not end up in faculty jobs, but most hope to stay in science.

Your time allocation and support for mentors

- Prepare to spend much more time with your mentee at the beginning of the process
- Remember that other faculty and staff are around for support!

