Faculty Advising Statement
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I believe that graduate education should provide students with a list of concrete, well-defined skills. Many of these skills are developed by working on a research project in a lab but many of them are best learned through interactions with an involved mentor. As a primary mentor, my job is to guide my students' work and thought process to ensure that each student develop strength and confidence in each of these skills. I believe meeting with students regularly and reviewing their work and their thought processes, rather than just their results, is critical to oversee the development of these skills. Discussing failed or negative experiments is important to the development of a scientist. Additionally, discussing the scientific literature and ideas for future work is central to developing a student's scientific thinking and is an important component of regular meetings. These meetings are also important to establishing standards of excellence for experimental design (and controls), data interpretation, and organization and presentation of results. We plan an hour-long one-on-one meeting every week and more as needed.

I believe a mentor's job is also to support and promote their students by providing them with opportunities to present their work internally and at international meetings, introducing them to members of the scientific community, offering them writing projects, and other opportunities for scientific advancement. My students present their work at our lab meetings, other labs' meetings and at international conferences.

Each graduate student brings their own set of experiences, strengths, and ideas. A mentor's responsibility is also to develop these and, as much as possible, to step aside and let the students' ideas lead the project or direction of the research. Letting the student lead their project is critical for them to develop their confidence as a scientist. Scientific research is a creative process that is strengthened by multiple intellectual inputs. As mentor, I encourage the student to voice opinions, thoughts, and ideas and help guide them to a practical or useful application based on my own experience and expertise.

As a mentor, I ensure that my students would excel in the following skills:
> Technical/procedural skills
> Develop methods for precision and accuracy
> Evaluate and assimilate novel technologies
> Trouble shooting
> Stepwise approach to answering questions
> Designing and using optimal controls
> Data and note organization and record keeping
> Data interpretation
> Critical review of and staying current with the literature
> Developing a research question
> Choosing timely, relevant, and impactful research questions
> Developing a practical approach to addressing research questions
> Generating figures
> Presenting results and ideas in oral and written format
> Writing manuscripts
> Developing contacts within the university and in the broader scientific community.