

## Mentorship Style & Group Dynamics

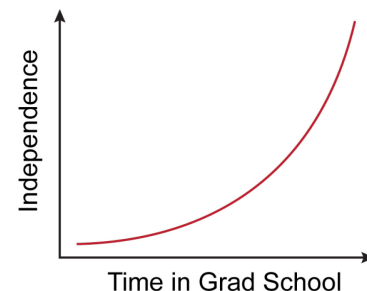
Dr. Lisa Olshansky

There is no one-size-fits-all for graduate school. Recognizing that every individual has different strengths, weaknesses, needs, and goals, I tailor my leadership style to fit the individual needs of my group members, and the needs of the team as a whole. That said, there are certain standards, infrastructural elements, and group dynamics that I have implemented to shape the culture of my group and our collective growth as a research team. This document is intended to provide a sense of these features for prospective graduate, postdoctoral, and undergraduate researchers interested in joining my lab.

**Mentorship Style.** I am often asked by grad students if they need to have certain skills or prior knowledge before joining my lab. The answer to this question is a resounding 'no'. However what all graduate students in my lab do need are passion and drive. With these two assets, all the rest can be learned.

I keep an open-door policy. My office is nestled right in between our labs and student offices and I am always psyched to talk science with my students and postdocs. That said, I also understand that there are times when what a researcher most needs is time and space to collect and then think about their data prior to discussion. Thus, my goal is to be available but not overbearing. I love this job and try to let my own passion guide and inspire the same in others. One of my own goals in mentoring my students is to create intellectual colleagues with whom to exchange and discuss our most exciting ideas. We have chalkboards everywhere and we put them to good use!

My philosophy in life, in general and with respect to my research career, is that it is fleeting. It's up to us to make the most of our time here, to accomplish our goals, and become the best versions of ourselves. Whether in the context of participating in research as an undergraduate, pursuing a PhD, or gaining additional training as a postdoctoral scholar, the process and needs of individual researchers in my group evolve and change over time. I see my role in this evolution as that of steward, guide, advocate, and spotter, helping each researcher develop toward their goals. Over time, my role in aiding your process changes with your needs. An example is illustrated in Figure 1. Graduate students typically need a lot of guidance at first. This guidance is provided by myself, and by more senior members of the lab. During the course of progress through the PhD program, independence increases exponentially until eventually you are the one driving your research. I strive to maintain the most diverse research group that I can, and we work mindfully as a team to continually push ourselves toward equitable and inclusive group dynamics. I also push my students and postdoctoral researchers to actively participate in career development opportunities on campus and beyond. I take my role as mentor seriously and work hard to make sure each individual receives the training and support to achieve their dreams. Group members and I are always seeking out and going after opportunities for fellowships, workshops, internships, conferences, awards, and additional training opportunities.



**Figure 1.** The development of independence among graduate researchers increases exponentially during the course of the PhD program.

**Meetings.** We have three types of meetings in the O-lab. They are listed below in descending order of size and frequency.

**A. Group meetings** take place on Fridays at 4pm, everyone is expected to attend, and we have snacks and refreshments to celebrate the close of the week. Group meetings have four components:

- i) Group business: a brief discussion of any group business that needs to be addressed. Examples include scheduling items, instrument maintenance, and upcoming activities.
- ii) Moment: One person per week presents a “moment” (five-minute presentation) on a topic of their choice. Topic areas include issues in lab safety, diversity in STEM, professional development topics, or synthetic/physical methods. Titles from some recent group meeting moments include: *Silence is Never Neutral and neither is Science*, *Getting Rigorous with Scientific Rigor*, *Talking to Non-Scientists about Science*, *Safe Handling of Br<sub>2</sub>*, *What Stands Between Us and Diversity*, and notes from attendance at the recent *Career Exploration Group* workshop.
- iii) Literature Slam: Each grad student and postdoc has a list of journals they are assigned to monitor daily (in total we monitor ~40 journals). When they find an interesting article or one that is particularly relevant to group research, they prepare a single slide summarizing the key methods and findings reported, along with the citation and a link to the original paper. Each person has 60 seconds per slide to summarize the paper to the group. There is a slidemaster each week in charge of enforcing time limits and compiling everyone’s slides to enable a smooth/efficient literature slam.
- iv) Research: Each week, one grad student or postdoctoral researcher gives a slide presentation on their project and latest findings. Questions and participation from the audience is encouraged and discussions result in increased productivity and/or new ideas. Once a year, we have an Undergraduate Power Hour in which all of our undergraduate researchers present their work to the group.

**B. Subgroup meetings** occur every other week and everyone in the subgroup presents (including undergraduate researchers). Presentations are casual and are often comprised primarily of work at the chalkboard and discussion of spectra and/or new data sets. The goals of these meetings are to troubleshoot current challenges, discuss ideas for additional experiments, and to cross-check and discuss the analysis of recent data.

In the summer, subgroups also meet to discuss selected papers. We call these meetings Literature Picnics (lit-pics) and they consist of an in-depth discussion of a single paper outside in the quad. Subgroup members take turns selecting the paper for discussion and the person who chose the paper leads the discussion.

**C. Individual Development Meetings** take place twice per year and consist of one-on-one meetings between myself and each grad student or postdoctoral researcher. Before each meeting, researchers are given a self-assessment form to fill out. During the meeting, we discuss the self-assessment, as well as my thoughts as your mentor. We also talk about career goals and steps toward achieving them, progress through the program, and any challenges and/or issues impacting this progress.

**Rules of the Lab.** There are three cardinal rules in my research program. They are as follows:

1. **No Death.** In other words, be safe in lab.
2. **Be Intellectually Fearless.** In our efforts to push the boundaries of science, it is critical to never be afraid to ask questions or think deeply about the problems we are trying to solve. There are no stupid questions and the only way to make advances is to first recognize what it is we do not know. Approach your research and growth as a scientist with intellectual fearlessness.
3. **Have Each Other’s Backs.** Working as a team is critical in my lab. We uphold the highest possible standards of mutual respect, scientific and academic integrity, and generosity with our time and efforts in taking care of each other, our space, and our science.