

FLECKER LAB GUIDELINES AND EXPECTATIONS

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Students are the core of an academic research laboratory, and it's hugely important that our lab environment is engaging and enjoyable place to be. I'm a real believer in collaboration and teamwork – and want to make sure our lab nurtures a teamwork mentality. I also can relate to a “work hard, play hard” lifestyle, that is, finding some time for other things in your seemingly all-encompassing graduate student journey. Below I outline some thoughts to serve as lab guidelines and expectations. Hopefully this will be an evolving document, that morphs with feedback and new experiences. Also, please be sure to let me know if there are other key issues or information that need to be added or modified.

Setting Goals for Graduate School: For starters, I think it's important to have clear goals in graduate school and a realistic plan for accomplishing them. I've always found it most productive to have goals and plans for different time horizons, i.e., near-term (weeks to months), mid-term (the next couple of years), and longer term (the next 5 to 10 years). Nevertheless, I realize that plans and purpose change as you grow and as you develop a better understanding of opportunities and realities of a career ahead. As you progress in graduate school, you'll be exposed to new things that in some cases might influence your career goals. Personally, I'm excited about training students with interests in different kinds of careers, although naturally, my own experience and perspective is largely through the lens of an academic. It's important to understand early on what it takes to meet your goals. I hope you'll revisit your goals periodically, assess where you are and whether you are doing what it takes to achieve your goals, and re-evaluate / re-calibrate, if needed. As your plans evolve, I am very much interested in discussing them with you.

Field/Grad School Expectations: Some Nuts and Bolts about Forming a Committee and A-Exams. The graduate field has a set of requirements, which are described on the EEB website (see <https://ecologyandevolution.cornell.edu/grad-requirements>). By the end of your first year you'll want to form a special committee, which should vary in size from 3-5 faculty (including your advisor). There are pros and cons of committees of different sizes; small committees are much easier for scheduling, larger committees will allow intimate exposure to more perspectives from different committee members focusing on you and your work. There is no need to immediately rush into organizing your committee, especially a large one. First, figure out the general research theme(s), concepts, study systems, approach(es) you want to pursue, and identify some of the key tools you'll want to develop. As this takes shape over your first year, talk to different faculty to get a sense for who might be most valuable as a committee member. It's generally easier to add rather than drop a committee member, so I would advise not organizing a committee in haste. By the end of your first year, or very early in Year 2, you should have a committee meeting to review progress, and plan the timing and structure of your A-exam. You should aim to have your A-exam in Spring of Year 2, or very early in your 5th semester. The A-exam has a written component (described on the EEB website), and you'll need to agree upon the format with your committee. I think the ideal A-exam written piece is a review paper that can be submitted for publication. A well-crafted dissertation proposal is important, but I prefer that you do this apart from you A-exam, so that your A-exam review paper provides the first chapter of your dissertation.

Subsequent to the A-exam, you should organize a committee meeting **at least once a year**. You'll need to organize the committee meeting logistics and be sure to remind your committee where and when the meeting will take place. Committee meetings should have a clear, organized plan and structure, which you are in charge of putting together. Be sure you spend part of your committee meetings reviewing your research progress (showing key results) and outlining the next steps in your program.

Lab and Department Dynamics and Engagement. Ideally, a lab is more akin to a bonded academic family, and you interact closely and generously with your lab mates. If you are in town, then I expect you to engage each week in our lab meeting. Lab meetings should be a safe environment to bat around ideas, practice a talk, get feedback on a manuscript, and so on. If asking questions in a larger setting doesn't come naturally, then use the lab meetings as a setting to practice your interaction skills for other moments in professional life when it is important to chime in. Our lab will invite speakers on occasion, and I expect the lab to participate in hosting responsibilities. Some years, graduate students in the lab have self-organized a group side project together, which can be a great way to gain more experience in team research, broaden perspectives, and add to your CV.

In addition to lab interactions, you should be engaging at broader scales, including EEB as your home department. We are fortunate to be in a place that has lots of incredible seminars all over campus, so take advantage of the opportunities. **If you are in town, then I expect that everyone in our lab attends the weekly EEB colloquium.** As a member of the department, I see the weekly EEB seminar as the glue that brings everyone together – so I expect everyone to participate. This is one opportunity in EEB to gain breadth beyond your specific research area. Additionally, I would make every effort to attend the student / postdoc lunches with external speakers, even (or especially) when outside your general research area. Professional life beyond Cornell will require some breadth and knowing how to talk to people that aren't in your specific discipline. Meeting with speakers is an easy way to gain some experience interacting with those less familiar with your research. You'll find that meeting speakers gets easier with experience, and if you do it enough will become something you look forward to.

Research as a Core Activity. Your research is at the center of what you do as a graduate student. Through your research, you should be an expert in something by the time you leave Cornell. EEB isn't a program where advisors hand their students projects. Instead, you might think of me as providing an atmosphere of **guided independence**. In other words, you should be sufficiently independent in defining and carrying out your research, but at the same time use me as someone to bounce off ideas and help refine (and at times redirect or refocus) your research. I want to be, and expect to be, engaged – so please keep me abreast of your work. To narrow down to a timely research topic, you'll need to read lots of literature. But reading doesn't stop there. Reading should be occupying a lot of your time in graduate school, and you should have a set of journals that you are familiar with and read regularly (i.e., read proactively, rather than only reactively). I expect you to work hard on your research throughout your time in graduate school, though obviously you will want to take reasonable breaks. Summers are especially important for focused research time as well as professional meetings, so it's important that you plan well in advance so that you maximize summer research productivity. Early on, this will take the form of

intense periods of collecting and processing data. It's important to stay on top of your data so that you are able to build on your results in shaping your next research questions and steps. Once you have data in hand, you should be timely in turning research results into findings that can be reported at professional meetings and in manuscripts.

Student-Advisor Meetings. You should plan to meet with me on a weekly basis, especially during your first year at Cornell, as we get to know each other, and as you get research defined and off the ground. After the first year, many students decide to meet less often – but we should still meet frequently enough that I am up to date with your research (and other things). My expectation is to meet often enough that I know how research and other things are going.

Funding Expectations. Most graduate students in EEB fund the major part of their research through their own grants and fellowships. As a program, we are committed to training and providing the atmosphere and feedback to be successful in obtaining funds. Acquiring funds is a process, often requiring hard work, and with ups and down. I expect you to be submitting grant proposals on a regular basis – both to sharpen your skills and to provide core funds. For many jobs associated with life after Cornell successful grant writing will be expected, and you will be grateful for the valuable experience you learned as a graduate student. Nevertheless, we should talk directly and candidly about your research financial needs. Depending on my current grants, I might be able to assist with some funds. At the very least, these are important conversations and I very much want to know when funding is a constraint in your ability to accomplish your research.

Dissertation, Publishing, and Co-authorship. A dissertation is a collection of chapters written in the format of publications in peer-reviewed journals or book chapters. Dissertations should generally have at least four chapters, although occasionally three may be acceptable. Moreover, like most advisors, I expect dissertation chapters to result in high-quality published products, and I think peer-reviewed publications as the end result are part of an implicit understanding between advisors and students. Before you defend your dissertation, my expectation is that at least two chapters have been submitted for publication, and ideally they should already be published. Having some or all of your dissertation published (or in very advanced stages) is important so that when you finish your PhD you are able to quickly transition and fully focus on the next set of challenges after graduate school, be it a postdoc, faculty position, or job outside of academia. No matter how motivated you are, you will find it enormously difficult to find the time to publish your dissertation during your next stop(s) after Cornell, so having much or all of your dissertation published before you defend, and at least in advanced stages nearing submission, will be something you will greatly welcome further down the road. Also, publishing at least part of your dissertation well in advance of your B exam will be extremely helpful for landing the job or postdoc you desire. You should keep your committee fully informed of the chapters planned for your dissertation. I expect students to work closely with me on papers that will be in a dissertation. Students should also make sure that committee members have had plenty of opportunity to review manuscripts that you plan to include in a dissertation, as it is too late to incorporate comments once a manuscript is published.

You need to think carefully about authorship, which can be complicated. Authorship needs to be earned; nevertheless, I believe it is always better to err on the side of generosity and

inclusiveness. My expectation is that we have a candid discussion about co-authorship with respect to the different parts of your dissertation research. You should take a look at some papers on co-authorship issues, such as Logan et al. 2017, *Author contributions to ecological publications: What does it mean to be an author in modern ecological research?* (<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0187321>)

Professional Meetings and Presenting Research. Throughout your PhD, I would aim to go to a minimum of one professional meeting per year. Meetings provide a means to showcase your work, and to learn about the work of others. They also give you a sense of the current buzz in your field. The Graduate School provides most students with at least partial support to attend one meeting each year, provided you are giving a talk or poster. Depending on funds, I can also try to help support meeting costs. We should talk about the work you plan to present and be sure your co-authors have had the opportunity to review your abstract before submission.

Teaching and Mentoring. As a PhD student in EEB, teaching and mentoring will be part of your graduate experience. Teaching is hard work, and hopefully you will find it rewarding and satisfying. Teaching experience is especially important for those wanting to pursue careers in academia, and there are lots of resources at Cornell to learn about and implement cutting edge engaged learning. You should become familiar with the opportunities offered by the Cornell Center for Teaching Innovation (<https://teaching.cornell.edu/>). Also, for students interested in gaining teaching experience in the social context of correctional facilities, there are amazing volunteer opportunities through the Cornell Prison Education Program (<https://cpep.cornell.edu/>).

In addition to teaching assistantships, many graduate students dedicate part of their time to mentoring undergraduates, usually by working with students interested in research. If you don't have the funds to pay an undergraduate assistant, there can still be good opportunities to mentor undergraduates interested in receiving Undergraduate Research for Credit (BioEE 2990/ 4990). In general, graduate students in our lab have found undergraduate mentoring to be a win-win situation. Please let me know if you are interested, as many undergraduates contact me who are exploring opportunities to get into a research lab.

Professional Development. As a graduate student or postdoc, you should be engaged and seeking professional development activities such as reviewing papers and serving on committees. There are no shortages of opportunities. Most faculty are frequently asked to review journal manuscripts, and I enjoy working with graduate students who want to gain experience with peer review. The Graduate School at Cornell has a very active Center for the Integration of Research, Teaching, and Learning (CIRTL) (<https://cirtl.cornell.edu/>), with an impressive set of resources to help prepare graduate students for different kinds of careers, in addition to academia. You should also take advantage professional development seminars in EEB, when available.

Diversity and Inclusion. I am strongly committed to creating a lab environment that promotes diversity and inclusion (D&I), and I expect members of our lab to share this commitment. I am proud of the very active role our lab has played in starting and continuing the Cornell Diversity Preview Weekend (<http://www.cornelldpw.org/>), which has gained a national reputation. The Diversity Preview Weekend is one form of outreach, and I hope you find others as well. For

those interested in academia, it is essential to become familiar with the landscape of D&I issues. D&I is important as a socially responsible person; moreover, demonstrating knowledge, experience, and future visions in D&I has become a vital prerequisite of many academic job applications. You should be building your D&I portfolio throughout graduate school, and I'm happy to discuss ways you might do this. For example, professional societies such as ESA have opportunities for mentoring undergraduates from underrepresented groups, such as through the ESA SEEDS program (<https://esa.org/seeds/>).

Work-Life Balance: Work Hard-Play Hard. Graduate school and academia in general are intense. I feel fortunate to be in academia – but it can be an environment (and career) that feels like there is never a break from the next looming deadline. I expect those in our lab to work hard and display sincere dedication, especially with respect to their research and teaching. However, I recognize the importance of making time for other things, such as time with family, recreation, travel, art, music, among many interesting and rewarding pastimes.

Unapologetically taking a break and doing other things makes you a more rounded and worldly person, and can be extremely valuable for staying energized, and re-charging your intellectual batteries. Thus, I'm a dedicated believer in the work-hard/ play hard mantra. I know that, in addition to my research and career, I don't want to live without great family time, art and travel. The reality is that we all have periods where working hard and staying focused is essential for completing difficult tasks. Finding the right balance to get your research and teaching done, while also making time for the other things in life is one of the big personal and professional challenges you will have in graduate school.

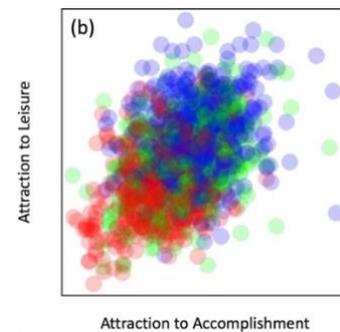


Fig 1. Work-life balance: Students who work hard, often like to play hard. It's important to me that you work hard towards your professional ambitions, and I realize this is often accompanied by a healthy need for down time. Figure from Aarseen & Crimi 2016 <https://openpsychologyjournal.com/VOLUME/9/PAGE/7/FULLTEXT/>