

MESSIER LAB PHILOSOPHY AND EXPECTATIONS¹

Graduate and post-graduate work is a mutual investment in the process of learning and producing excellent science. It is accomplished through the joint efforts of the advisor and the graduate student or post-doc. Like most relationships, it requires hard work and good communication. Your job is to produce high-quality science and develop into an independent researcher. My job as a supervisor is to foster successful research outcomes for everyone in the lab and to mentor you as you pass through this stage in your career. We are all colleagues and should be conscientious about our responsibilities to another. The following is a list of values, expectations and responsibilities that will guide our journey.

VALUES

- **Mutual respect and civility**- All good relationships - including professional ones – are based on mutual respect. We will respect each other’s abilities, personalities, limits, feelings, wishes, rights and traditions. This extends to everyone in the lab.
- **Excellence** - We strive for excellence. We do the best we can in all our tasks because what is worth doing is worth doing well. That is extra true of academia.
- **Communication** - Good communication is key to all good relationships. People can interpret situations from vastly different perspectives, and stating one’s expectations and needs is often necessary. Discontent is proportional to the amount of communication in between the lines. Let me know early if you have any concerns. In turn, I will do the same for you.
- **Leadership** - To become a researcher, you must be autonomous, creative and independent. Take initiative. Propose ideas. Think about different ways to solve a problem before coming to ask for help.
- **Honesty** - It is okay to be wrong and to mess up, everybody does. This is a normal part of learning, which we do our entire life. That being said, mistakes need to be reported early on so they can be fixed promptly. We do not expect each other to know everything nor be perfect and we are honest about our own abilities and limitations.

EXPECTATIONS OF LAB MEMBERS

Be committed

- Graduate school and academia are hard, no doubt about it. I expect you to do well in your classes and to push yourself hard to accomplish research goals on time. This does not mean I expect you to live an unbalanced life and work all the time; building in personal time is rejuvenating and necessary.

¹ This material was adapted from material from Dr. Angert’s material

- Persistence and determination are key ingredients in research, where many steps require tedious yet repetitive tasks (such as collecting data), or bouncing back from failures (such as writing and submitting grants and papers). Keep your eyes on the prize and stay focused. It pays off.

Be enthusiastic and self-motivated

- Research is rewarding and many parts of grad school are fun. There will undoubtedly be times when staying motivated is difficult, but every once in a while step back and remember that we have the incredible privilege of studying whatever we choose. Make sure you enjoy it! Focusing on the fact that we are doing what we love helps alleviate the stress of the multiple demands on our time.
- Being self-motivated is crucial to successful grad and academic experience. Find ways to motivate yourself and remain excited about science. The best way to feed your passion is to share it with other people. This can happen at paper discussion group, lab meetings or conferences. Talk to other grads, postdocs and profs in and out of your lab and the department. I find that it also really helps to stay involved with the scientific literature, to read relevant textbooks and to present my work.

Be a good lab citizen

- o Participate *actively* in lab meetings. Come prepared to contribute to discussions with ideas and questions. Lab meetings are a safe space for the free exchange of ideas, at any stage of a project and no matter how well versed you are in a topic – no judgment. But this is not the same as coming unprepared. If you notice you are a dominant voice at lab meetings, help create the space and opportunities for others to speak.
- o Contribute positively to the social dynamic of the lab. Be present, be engaged, and suggest activities that will help us connect.
- o Take on your fair share of responsibilities for maintaining common lab space and equipment.
- o Promptly report mistakes or problems. They happen to everyone and we can then try to fix it together.
- o Pitch in to help lab mates when they need it, whether it is a hands-on project or providing constructive feedback on an idea or draft. They will do the same for you.
- o New trainees should consult with more experienced lab mates for advice and help with navigating their way through graduate school as well as on lab policies. Senior trainees should mentor newer trainees. You will learn from each other most of what you will learn.

Engage, Collaborate & Network

- o What you learn and how much you enjoy the grad experience depends a lot on the social network you develop. Be engaged in the broader research community of the department, the University and with ecologists locally and internationally. Cold-calling

and cold-emailing other scientists you want to talk to is fair game. Learn from and build on each other's strengths. This really make the whole process even more fun.

- Strive to go to at least 1 seminar per week.
- Participate *regularly* in at least one weekly group scientific exchange: lab meeting, paper discussion group or seminar. If there are none, consider forming a reading group on your topic of interest.

Maintain regular communication with me. This means:

- I do not micromanage, but I will be closely involved. Keeping me updated is very important. Be willing and ready to share the good, the bad and the ugly. We will meet on a regular basis to checkup on project progress when on campus.
- When one or both of us are in the field, send regular reports by email.
- Stop by my office informally to share cool results, report problems, get a signature, etc.
- Inform me of your research and course activities, particularly when (or preferably before) you find yourself overwhelmed. I am here to help you, but I can't help solve the problems I am unaware of. Before asking questions or bringing forward a problem, please make the effort to research the topic. This way we can use our time together to discuss various ideas or options.
- If my door is open, I'm happy to see you. If my door is shut, I'm on a deadline, in a meeting, or not there.
- Copy me on all written communication with our research collaborators. Also, inform me right away of any event or action that has the potential to cause concern or conflict among our collaborators or with other people.

Treat Grad School as your job. This means:

- Keep regular hours. You are free to set your hours, but I do expect you to be in during more or less regular business hours so that you can work with and help lab mates.
- How many hours? This will vary according to other activities and commitments and the fluctuating demands of your project. Hours dedicated to research may be as low as 15-20 hours/week when taking classes and TAing to more than 40 hours/week when meeting deadlines or in the crunch of a field season.
- There are many responsibilities and activities you can and should take part in, but you must schedule regular time for research so you continue to make progress. If you wait to do research until you have nothing else on your plate, you will never get to it.
- Write early and often. Set aside your sharpest time of day for daily writing. Aim for at least 30 min/day at every stage of your program. Form a peer support group to help set and enforce weekly writing goals.
- Everybody needs vacation. The key is to strike a balance where you take what you need while making sure you stay on track to meet your graduation milestones.

Work towards becoming an independent researcher

- Time management is vital. Set short- and long-term goals, prioritize them and outline plans for how to achieve them by breaking them down into daily and weekly tasks. Revisit your goals lists regularly. Be realistic about how many hours/week you can dedicate to your research and how long it takes to complete tasks. Come talk to me about time management strategies. Work hard to meet mutually agreed upon deadlines, even if they are informal.
- Read and stay abreast of the literature in your area. You will be asked questions at your proposal and thesis defense testing both the breadth (general knowledge in your area) and depth (thorough knowledge of your unique topic) of your knowledge. This includes seminal and recent papers and books. Find a good way to database and track what you read (e.g. annotated bibliography, Papers, Mendeley, etc). Keep me informed of cool things you find!
- Practice giving and receiving constructive criticism. Not everything we say or write is excellent. That holds for everyone, including myself. There is always room for improvement, so be open to criticism, offer your opinions, begin developing your reasoning and argument skills. Don't be afraid to respectfully disagree with me, or let me know when I am wrong about something.
- Develop the financial management aspects of being a researcher: Search and apply for grants to support your data collection and attendance at meetings and workshops. Prepare a budget for your project. Maintain an informal log of expenses and keep within the agreed upon budget.
- Be proactive on organizing logistics and paperwork required for your research (safety training, lodging, car rental, insurance, etc). Acquiring permits and permissions can take weeks to months to secure so plan accordingly. Please make sure that I have the opportunity to review documents prior to submission.
- Aim to give a presentation (poster or oral) at one conference per year. Funds are limited, so you will need to apply for travel grants, attend local conferences or come to me to discuss other ways to pay for conference travel.

Use best practices for open, reproducible science

- Keep physical lab notebooks for all lab and field work. Pages should be numbered and dated. Lab notebooks should stay in the lab (not be taken home). You can also record an overview of computational analyses in your notebook. Field notebooks should be photocopied, scanned, or photographed regularly.
- All your code should be thoroughly annotated, version-controlled and archived in GitHub.

GRAD SCHOOL PARAMETERS

- Be prepared to work hard to finish in a timely manner, 2-2.5 yrs for masters and ~5 yrs for a PhD.
- 1-2 publications are expected for an M.Sc., 3+ for a Ph.D. and 1-2 for a postdoc.

- Stay in touch with your committee members and consult with other scientists who have relevant expertise. Tap into the vast experience that these people are happy to share with you. You will learn a lot from talking with informal mentors at all career stages.
- All thesis chapters should be submitted to committee members prior to submission to a journal. Do not submit a thesis chapter to other committee members until we have mutually agreed it is ready. This is to ensure we do not wear down our busy colleagues and that you get the very best feedback.
- Grad school is hard and inevitably there will be setbacks. You should have back up plans for your thesis chapters, and I will help you make them. Something(s) will fail, but that is ok if your are prepared.
- You are responsible for knowing and meeting the requirements of your department and the graduate school in a timely manner. Know the graduate forms that need to be filled out and deadlines for submission. Talk to the graduate secretary, to your lab mates and other experienced grads.
- Select a committee in consultation with me and set up yearly committee meetings.
- Prepare a plan *with deadlines* for meeting the major milestones of your program (proposal, fieldwork, labwork, grant applications, conferences, paper submission, etc.), and update it frequently. By the end of the second term, you should have a well-rounded research proposal with solid and obtainable research objectives.
- If you have issues or concerns that you feel you can't discuss with me, I strongly encourage you to talk to postdocs, the graduate advisor and/or trusted faculty members. There are many resources outside the department to which they can point you if necessary.

WHAT YOU CAN EXPECT FROM ME

I am here to help you develop into an independent researcher and learn to master the literature, concepts, methods and the process of conducting Science in your chosen field. In addition to scientific and academic skills, I am also here to help you develop soft skills that will help you in the future in all jobs. This includes, writing, presentations and public talking, organization, goal setting, time management, etc. Life in academia is unquestionably demanding and as such, it is also an opportunity for personal growth. We all have multiple interests and needs and work is one of many components of a rich and fulfilling life. Personal and work life can blur into one another, but everyone should find a balance that works for them because happiness and productivity feed into one another. I am available to help you navigate the multiple demands on your time and find the balance that suits you. Feeling stressed at times is normal. I strive to create an environment where we are open about all the challenges inherent to academia and support each other.

- **Availability.** When I am in town, we will meet regularly (biweekly or weekly) to discuss your research ideas, results, and progress. I will do my best to provide input and feedback, but I won't know the answer to all questions; you are likely working on new and exciting projects that require new techniques. Seek advice from fellow students, statistical experts, committee members or other faculty as necessary.
- **Feedback.** I will give you constructive feedback on your ideas written research questions, proposals, progress reports, thesis chapters and publications. Let me know ahead of time when I can expect to receive a document and, in turn, I will let you know when you can expect to receive comments. I aim to turn around documents within 2 weeks.
- **Safety.** I aim to provide a lab environment amenable to learning, open discussion of ideas, and producing credible research without discrimination or harassment.
- **Financial support.** With your help, I will provide reasonable resources and financial support to meet mutually agreed upon research objectives. I will not be able to provide financial support beyond the end of departmental, project, or scholarship support. What I can provide to each trainee depends on the source of funding for the project, and we will have a clear discussion of expectations for what can be covered by whom when you start. I will do all I can and provide guidance and suggestions, but resources are finite. I expect you to apply to the fellowships and grant opportunities that can help cover your research and travel.
- **Acknowledgement.** I will acknowledge appropriately your contributions to research and other efforts in presentations and publications.
- **Absences.** I will notify you in advance of any anticipated, prolonged periods of travel or leave and, in consultation with you, set up structures to support you during my absence (e.g., a faculty mentor on campus, alternate lab meetings).
- **Transitions.** I will assist you in transitioning to the next stage of your career in a reasonable manner, whether it is academic or non-academic. This mainly takes two forms:
 - Point you to and encourage networking opportunities (e.g. conferences and workshops).
 - Submitting reference letters. Know that I will be honest with the content of the letters. Let me know *at least 2* weeks in advance and provide me with an email with the following info: the opportunity for which you are applying; the due date; the name, institution and address of the person/committee to whom the letter should be addressed; instructions on how to submit the letter (email address, physical address, etc) and; any instructions on what the letter should discuss. Send a reminder 3-5 days before the deadline.