

This is a living document, which means it grows and evolves

3/17/22 – ACM, lab, and Hallie

3/25/22 – ACM and Hallie

4/18/22 - ACM

Commitments to the Martin lab from Adam:

Core:

- 1) I will ensure that this document is presented and discussed with new lab members.
- 2) My number one priority is to support you as a person. This will involve learning about you and discussing your individual needs and goals. As part of the ‘onboarding’ process, we will discuss what you need as a student and what I need as a mentor. Successful and continued communication throughout your time in the lab will help me to successfully support you as the complicated human you are. I don’t expect you to share things that you are uncomfortable with and will leave questions open ended – so individuals can share what they want.
- 3) Other priorities are to support your training, and your science. This will involve formal 1-on-1 meetings and lab meetings, but also informal meetups and brainstorming sessions. Other ways that I facilitate training is to involve you in the peer review of manuscripts, obtaining funding for our research, helping establish collaborations to support your science, and working on papers together.
- 4) When I can and when it makes sense, I will provide hands-on training to teach you experimental methods, computational approaches, and could be ‘present’ in lab. I am often stretched in many different directions and so my ability to maintain a ‘lab presence’ will fluctuate during the year and over your time in the lab.
- 5) I will advocate, mentor, and support you, from when you join the lab to well after you have left the lab. Science is a small world and no matter what career paths we may choose, we remain connected through a mentor/mentee relationship and through a web of interpersonal connections (some being the other lab members, but probably even more given my professional experience in the field).

Other:

- 6) When I am in lab, as long as I am not meeting with someone and my door is ajar, you can interrupt and talk to me. This could involve something happening in your life, a cool result you got, and/or wanting to discuss an experiment that has been giving you a headache. If I need to have uninterrupted time to get something done, I will close my door, hide, or otherwise communicate this to the lab. My availability can change during the course of the year (i.e. teaching, grant writing, committee responsibilities), but you can always e-mail me and arrange for a meeting to discuss things. My goal is to

provide equitable support to all lab members. I understand that your needs for my time will fluctuate through your time in the lab and I will do my best to adjust to provide what you need, when you need it.

7) I do my best to make my lab decisions and actions in the lab transparent. I see illustrating Principal Investigator and Professorial activities as a valuable opportunity for trainees to see what it is like to run a lab. Many of the decisions I make are difficult and will be held in confidence. Ultimately, I am responsible for what happens in my lab and its science trajectory and so I reserve the right to unilaterally make decisions, when necessary.

8) Professional development will be done with intent. We will have an IDP meeting each year and discuss your career interests and progress. I give everyone the opportunity of going to 1 conference/year. While I might not be an expert in your preferred career track, I will use my professional network to help you.

9) I will listen in yearly check-ins about what you think about processes in place for lab operations and aim to strategize with lab members about how we can maintain lab harmony.

Expectations of you:

Core:

1) I expect you as a part of your training to take intellectual ownership of your project. That means having read, knowing, and continuing to read the primary literature that underlies your project and mastering the theory and practical aspects of the experimental methods you are using. With such ownership, your opinion will be essential in discussing and choosing research directions.

2) Independence and trying to work things out by yourself. A key part of success is the ability to make your own mistakes and learn from them. Part of my teaching philosophy is to enable young researchers to have that independence and build those essential skills, while providing guardrails to keep trainees on track and prevent total failure. There will be times when you fail and I expect you to learn from those times (those are when you learn the most) and move forward.

3) Independence – part 2. You might try working on a few more drafts of a writeup or presentation and/or consulting peers or more senior members of the lab before coming to me. This does two things, it 1) gets you used to working through problems on your own, which will be critical later on, and 2) it gives your peers and senior colleagues practice providing feedback and advice, which is critical to their training. For written manuscripts and oral presentations, I suggest consulting me first on big-picture organization and content (e.g. an outline), then working with members of the lab to improve, and then coming back to me. I will ask you who helped you edit and recognize your collective effort.

4) Be proactive about communicating what you need from me for you to be successful. This can be done by setting up a 1-on-1 meeting to discuss this very topic or more informal conversations.

5) I expect that there will be times that we disagree or where you may disagree with others in the lab, either about science or lab policy. That is completely fine and a natural part of working as a group. I expect that we will resolve disagreements with patience and in a respectful and logical manner. Do not take out frustrations on others by personally attacking (physically or verbally) and/or blaming them. This is not constructive and creates an unwelcome lab environment. There are resources on campus to help resolve interpersonal disputes, such as the MIT Ombuds office (<https://ombudsoffice.mit.edu>).

6) Be supportive and understanding of your fellow lab mates, they are your current colleagues, but could also be your future colleagues (you never know where you will end up, who will be there, and/or who could unlock a door for your career). Engage with them on their science and lend a helping hand when possible. For example, 1) read journal club papers that your colleagues choose to present, 2) be engaged and give constructive feedback, when your colleagues present lab meeting, 3) help them learn an experimental or computational technique that you know, 4) be respectful of your lab mates' career aspirations.

7) Be constructive in giving and accepting criticism. When possible use wise criticism, when criticizing others (<https://sparq.stanford.edu/solutions/wise-critiques-help-students-succeed>).

8) I encourage everyone in the lab to set personal/professional boundaries so that they maintain their own sanity. There are times when your life may be falling apart, and, in this case, you should communicate with me and I will help you (in a professional sense - adjusting work schedule and giving advice). I will also set personal/professional boundaries and ask that you respect these boundaries and my time.

9) Ask people for help when you need it and be mindful of others' time constraints and their individual needs regarding their own work and personal life. Different humans at different career stages, need different amounts of help. There are also different expectations regarding levels of independence and ability to train others. For example, postdocs will be more independent, undergrads will need more hands-on training.

10) That you make mistakes. This is a natural part of mastering a craft (and life) and is inevitable. I also expect you to learn from your mistakes and to move on so that you continue to make progress. You should also be respectful in how you address mistakes by others so that you we solve problems as a group constructively.

Other:

11) That you will make the decision about what career path you choose to follow. I will support whatever you choose and respect that decision. My goal is to help you attain the career that will make you fulfilled and happy. I don't have an agenda to produce a bunch of professors, but will support those who choose that route. I will give trainees the time they need to make these decisions. I expect that trainees seek resources that they need to make these decisions – list of resources.

12) That I will not micromanage your work hours. I do encourage lab members to adopt a work schedule that overlaps with others to enable stronger interactions and collaborations than would otherwise be possible. But, overall, I want you to be the determining factor in when you decide to work and give you liberty to fit your work-life with your other life activities.

Something about hybrid.

13) Data ownership and collaboration: I encourage trainees to present both published and unpublished data at conferences. The decision of what data either you or I present will be discussed and agreed upon before it is presented publicly.

Before initiating an outside collaboration and sharing data with collaborators, you should consult with me. I can often direct lab members to the best collaborators. Collaborations and authorship will be through mutual consent and discussed between me and the trainees involved.

14) That you will fully document and safeguard your notes, reagents, code, and data. Server, dropbox, online notebooks, paper, Github, explain everything. I will give you pointers on best practices and put some guidelines in place, but expect everyone to take personal responsibility of their own data and maintaining a notebook that enables others to repeat their experiments.

Expectations for a PhD or career in science:

Properties of a successful scientist: Getting a PhD and being successful in many science-related career paths requires becoming THE (or one of the) expert(s) in your field. In research, this requires that you discover and/or explain something new (the definition of what is expected for your PhD). This also means you take personal responsibility for your learning, level of knowledge, and ability to communicate in partnership with your PI. Scientific discovery involves many ups and downs, it is exciting, frustrating, and by its nature involves uncertainty and discomfort. My job as your research advisor is to keep you self-critical when things are up and to help you keep going when things are down. Having successfully navigated many complex situations, part of my job is to train you to strategically manage the uncertainty around your project. This is also a collaboration and we will need to put our heads together to solve complex problems that don't yet have answers and to manage inherent risk regarding the project working out. Many of my expectations of trainees are designed with the goal of individuals acquiring the skills needed to be independent scientists that enable you to function autonomously and be a leader.

Interpersonal skills: Success in research also requires convincing others of our own value and of the importance of our discoveries. This aspect of science requires interpersonal and communication skills in a variety of different settings. For example, you may need to cultivate letter writers in order to get a promotion. These types of interactions are unscripted and often require that we exit our comfort zones. Developing these interpersonal skills takes effort, but it is effort well spent.

Things I wish I knew when I were a PhD student/trainee: I did not understand what a Ph.D. was when I was a graduate student or fully appreciate what professors do at any point before becoming a professor. As with anything, my perspectives have changed greatly with time and experience. As a graduate student, I was mostly focused on 'getting the work done' and viewed myself as a 'worker'. While this was obviously important, I wish I had taken more opportunities to explore science being done outside my direct field and to more broadly learn entire fields. Also, it is important to really know your field inside out and be able to communicate the importance of your work in the context of past work. Especially being at a world-class institution, you have the opportunity to explore and be curious about a wide range of things. At some point you are going to be expected to know things (possibly an entire field) and I wish I had done this in a more targeted fashion from grad school on. Ultimately, success depends on knowledge and, practicing broad intellectual curiosity, is one of the most important things you can do. 1) Go to diverse seminars, 2) talk to different people, 3) at conferences go to sessions that are not directly on your research topic, 4) Know the literature around your own research topic inside out.

Other things to consider: Get to know people, stay in touch with people, and leave a positive impression on people you interact with as a trainee. This includes faculty, but more importantly, your peers, many of whom continue to show up at random times and places in your life.