# Research Group Expectations – Mitrovica Group

*updated March 2021*

This document gives an idea of what is expected of you as a Mitrovica Group student, and what you can expect of Jerry as an advisor. Every student's PhD experience is different, and this document should be accompanied by ongoing conversations with Jerry and your peers about your progress and goals.

If something is not addressed below, or if you're not sure about something, ask someone!

**THE BASICS**

a) *The importance of self-motivation and independent initiative*

1. The time commitment to research tends to be one of the most important issues for graduate students and advisors. Set specific goals and timetables for yourself. Working hard is not the same as accomplishing something (work smarter not harder). Make sure you set a goal and adjust your strategy as necessary (e.g., with teaching load, coursework, life!) to meet it.

2. Planning for sufficient work time takes priority. When setting meetings, appointments, office hours, or section meeting times, avoid breaking up your primary working hours. You may be a night owl (like Jerry) or you may be a morning person. You have the responsibility and privilege to arrange your schedule in such a way that best suits your working style.

3. Be proactive about eliminating bottlenecks to progress. Do you need to meet with someone who is generally unavailable? Shoot them an email ASAP. Meanwhile, work on other tasks at hand.

4. It can be difficult to know how to divide your time between reading and writing papers and your research. Most people underestimate how long writing and reading takes.

5. "**Time is the *only irreplaceable resource**" (*except for your life and health – work efficiently, but always be safe!)

b) *Measures of productivity – what are the benchmarks for progress?*

1. A PhD from EPS takes ~5 years. Jerry will do his best to make sure that you graduate within this time frame.

2. Everyone except 1st year graduate students should have something new/presentable (e.g. a paper, a conference presentation, exciting results) every semester.

3. The department requires a formal annual report outlining goals and progress. Meet with your committee members at least once per year post qualifying exam.

4. You should plan on writing a manuscript-based thesis that will have 3-4 papers that will be submitted to journals while you are still here. Jerry will work closely with you to plan/outline figures and content and then will review complete drafts once finished. The length of the paper and journal selection will depend on the research subject, but we generally aim for high-impact journals.

c) *Which and how many courses, and when to take them*

1. First years typically take 2-3 courses each semester. Most students finish their required courses by the end of their third year. Try to finish your math requirements in your first three semesters (before your qualifying exam).

2. Unless you've finished your course requirements, take every graduate level course Jerry teaches (Sea Level, Geophysics, etc.).

3. On the whole, graduate school represents a transition to research-based work, away from course-based work typical of an undergrad.

d) *How frequently to attend seminars, reading groups, and other academic activities*

1. Required: Monday Colloquium and Wednesday BiSEPPS (Biweekly Seminar in Earth, Planetary, and Physical Sciences) seminar (if it is being given that week)

2. Recommended: Tuesday GIGGLES (Grads In Geosciences Getting Lunch Explaining Science), Thursday GSPD (Graduate Student / Postdoc seminar)

3. Optional: Tuesday ClimaTea, Friday Planetary Journal Club, etc.

e) *Expected working hours*

1. This is a work environment, where you are expected to be on task for the number of hours equivalent to a standard work day. In practical terms, however, you will find that the job of being a scientist does not always conform to standard hours.

2. Working by yourself at night: night-time hours by yourself can be necessary, but use good judgment.

3. Regard graduate school as a full-time job (with room for both vacations and overtime). You should work a 40 hour work week on average in a given semester. On the subject of 'overtime', there will probably be times when you will need to work on weekends if a deadline is near. You should familiarize yourself with the Workload Article of our Union's contract, which

outlines your rights with regards to working hours. However, be aware the distinction between academic (e.g., coursework) and research work is nebulous.

f) *Vacation policy*

1. You will take vacations because you are being paid as a full-time graduate student. Jerry is happy to discuss longer-than-average vacations with students, depending on your particular situation.

2. You are expected to work during academic 'holidays' such as reading break. However, you are not expected to work during official University holidays and recesses -- you should familiarize yourself with the Holidays, Personal Days, and Vacation Article of our Contract for vacations standards and a list of holidays we take off.

g) *Balancing formal teaching and informal outreach activities with research time*

1. Teaching is an integral part of our education and an academic career. In semesters where you teach, you should adjust your expectations for research output. It can be helpful to organize your time to allow at least one free day per week to work on research.

2. Many group members have been/are very outreach-focused. If you're looking for ways to get involved in community and/or affinity organizations, don't hesitate to ask.

h) *Conference attendance – when and where?*

1. Pre COVID-19, we always attended the American Geophysical Union science meeting in December.

2. PALSEA, ASPECT Hackathon, IUGG (International Union on Geodesy and Geophysics), EGU (European Geophysical Union), and GCC (Graduate Climate Conference) are other common conferences the group attends.

**ESTABLISHING LINES OF COMMUNICATION**

a) *Group Meetings – how frequently*

1. We generally have one group meeting per week when everyone can discuss their progress, problems, and goals. These typically last 1-1.5 hrs.
2. Often we will invite a seminar speaker to group meetings. Be prepared to give your 5-minute introduction on who you are and what project you are working on.

b) *Individual Meetings – how frequently*

1. Each term, try to sit down together with Jerry and identify reasonable goals to be completed by the end of that term. Write these goals down and revisit them periodically throughout the term during individual meetings. Individual meetings are usually scheduled when required, rather than on a regular schedule.

2. Jerry has an open-door policy if anything comes up. If he is occupied with something else (he can be very busy!) he may ask you to come back later or another day entirely, but he will meet with you.
3. Jerry often works late in the evening and is unlikely to meet with you before ~11 AM his time.

c) *Email – degree of mutual accessibility – will it include after hours and/or weekends?*
   1. If Jerry emails you, unless the email explicitly says otherwise, you should respond (usually within 24 hours).
   2. You are not expected to respond to emails outside of normal working hours (e.g., on weekends or official holidays).
   3. Jerry receives many, many emails every day. He is not always able to carefully read or answer emails you send to him. If you need to convey something important to him, it can be more successful to do it in person or on the phone.

d) *Emphasize the importance of regular communication (in both directions)*
   1. Sometimes, students are unclear what they should be doing early in a project. This is normal. Talk with Jerry, talk with fellow group members.
   2. Jerry is here to develop overarching ideas and projects with you, and guide you when you run into barriers. Other members of the group are your primary resource if you need focused technical/coding help.
   3. In academia, it is important to be open to criticism. Criticism can be a difficult aspect of a PhD; many of the things you will work on become so important to you that it can be hard to maintain perspective. Feel free to talk out edits or critiques with other group members to create a plan of action if you feel overwhelmed.
   4. Work together to find a common agreement when conflict arises. If you ever need help with a workplace issue, talk to the labmates, but if you need further advocacy, you should reach out to the Contract Enforcement and Education Committee or the EPS Union Stewards.

**OTHER**

a) *Funding*
   1. You will be supported for a guaranteed 5 years while in EPS. Your support will likely come from a mixture of TA/RA and fellowship funds.

   2. Especially in your 1st year, you are expected to apply for external fellowships, for example, NASA, NSF GRFP, Hertz (though it can be harder to find options if you are an international student).

b) *Good practices*

1. It is important to have strong integrity and honesty in your work – never skewing, biasing or misrepresenting results to fit a previous idea.
2. Backing up your work at least once a week is also crucial. Consider backing up your organized files with a README when you're done, so that future students can use the data. You could, for example, use Dropbox or GoogleDrive (free to Harvard students!) for the ease of storage and backups that allow access across multiple computers and users. You should also consider backing up your laptop/data to an external harddrive.

c) *Note taking*

1. Tracking and recording work is important. Taking clear notes feels boring but pays off massively later when you are writing. Use whatever you are most comfortable with to take notes during meetings.
2. You may want to keep a separate journal to take notes on the department seminars you attend.
3. You should use a citation management software, like Zotero, EndNote, or BibTeX, to manage the papers you've read (or will read) for each project (e.g., a class, your qualifying exam, a research project). It is very helpful to write a short summary in the notes about the paper so you don't have to read the entire paper again down the road.

d) *Coauthorship*

1. You will be an author on a published paper if you have provided a substantial portion of the intellectual and physical work involved, and have completed your portion of the work satisfactorily. This involves participation both in the writing and the research work involved.
2. You will be first-author if you contributed the majority of the intellectual effort and completed the project, including the writing. Academics often get attached to 'this is my idea' and people have imperfect memories so we encourage an open dialogue about who contributed to an idea being born, developed and brought to fruition. Article 9 of our Union contract covers intellectual property and scholarly/research conduct.

**FINAL THOUGHTS**

As a graduate student, you will be treated as a junior colleague who is maturing into a professional scientist. This means that you can actively co-create opportunities to meet your goals. This framework also puts a large responsibility on your shoulders to live up to the expectations of performance that are required of a colleague. As a part of your PhD, you will ideally learn:

1. how to do good science along with how to do your specific project
2. creative problem solving and a sense of fearlessness about technical issues and new ideas
3. technical writing and presentation skills, a sense of professionalism and project management
4. to support colleagues and value a collegial, challenging, fun and interdisciplinary environment.

Much of this is taken from Gleeson, T. 'Guidelines for graduate students' (2012), McGill U.; Ginny Catania's guide to new students; and Ann Pearson's Research Group Etiquette Guide.