

Responsibilities

This page outlines the responsibilities of everyone in the group. It is a living document and will be updated as the group evolves. If you have any questions or concerns about these responsibilities, please reach out to James.

Caveat

Guidelines from Rice University, Rice Engineering, and Rice CEVE take precedence over this section. If you believe that something on this page is at odds with university policy, please notify James.

Credit

Specific language on this page comes from the [Ocean Transport Group](#) at the Lamont-Doherty Earth Observatory and the [MemoLab](#) at Boston College.

Everyone

1. **Excellence:** do work that you are proud of. Do work that others will care about. If you feel as though your work does not meet these standards, speak up. Double-check your work – being a little obsessive is essential to good science!
2. **Supportive:** be supportive of your labmates. We are a team committed to learning from one another and helping each other succeed.
3. **Contribute:** group members should be physically present for group meetings and seminars, and should take turns to lead group meetings or discussions.
4. **Produce open science:** see [Open Science](#)
5. **Be considerate:** the lab expectations and guides are here for you. Read them, suggest changes you think would be helpful, use this resource.

PI responsibilities

As the group leader, James has a unique and challenging range of responsibilities.

1. **Build an Inclusive Environment:** the PI is responsible for managing the social dynamic of the lab group to create a welcoming, inclusive, and productive environment.
2. **Define Research Directions for the Group:** Finding research questions that are socially relevant and scientifically novel is one of the hardest and most important components of basic applied research. It requires an awareness of the overall state of knowledge in the field, creativity, and plenty of luck.

3. **Define the Technical Approach:** Software and computing are very important to our group. The PI is working hard to provide a software and hardware environment that enables everyone else to be as productive as possible.
4. **Departmental Service:** The PI has lots of responsibilities to the department, including attending department meetings, participating in committees, and serving on student masters meetings / qualifying exams / thesis proposals / thesis defenses.
5. **Provide Scientific Mentoring:** It is the PI's responsibility to help the junior members in the group develop into mature, independent scientists, capable of defining and executing their own research programs. Lab members will meet annually to sketch a strategic plan for the academic year and regularly (for now, weekly) to stay in touch.
6. **Manage the Publication Process:** Published papers are the main output of our team. The PI can help identify when results are ready to publish, select which journals to target, and help manage the ups and downs of the revision process.
7. **Obtain Funding:** Scientific research is expensive! A central role of the PI is to obtain grant funding to support our work, without which no research could happen.
8. **Professional Service:** The PI is expected to participate in professional organizations (e.g. AGU, AMS) and review papers and proposals on an ongoing basis.
9. **Provide Feedback:** The PI is expected to provide feedback on all aspects of research, including defining hypotheses and formulating questions; identifying specific methods and technical approaches; identifying relevant datasets; writing and debugging scientific code; producing figures and visualizations; managing data; and writing and editing papers. Feedback is also available on course selection, overall career goals, and long-term strategy.
10. **Provide Material Support:** You are never expected to spend any of your personal finances on anything related to research. All conference travel, computer supplies, books, etc. can be paid for with grant support (see item 2 above). Coordinate these expenses, in advance, with James.
11. **Provide Moral Support:** Graduate school, and research in general, can be an emotional roller coaster. James has been through these challenges personally and is always available to listen and provide advice (though you should also see the [Health Resources](#) page).
12. **Provide Recommendation Letters:** You need them for almost every career move.
13. **Set Goals and Timelines:** The PI can help give structure to your project by defining specific milestones and timelines for their completion. Some people prefer to be closely managed in this way, while others may prefer a more hands-off approach.
14. **Sign Stuff:** There are lots of signatures needed to navigate the bureaucracy.
15. **Teach Classes:** The PI's main job is to teach at least one course for semester, which occupies a large fraction of available time and effort.

Graduate Student Responsibilities

Graduate students are both students and workers, leading to a complex range of responsibilities to manage.

1. **Apply for External Funding.** Applying to external funding (e.g., NSF GRFP) that you are eligible for is required of our graduate students, but even if it wasn't, I would recommend it because it is such a valuable learning experience. We maintain a list of funding opportunities on Slack.
2. **Be Professional and Organized:** Develop a system that works for you for managing your responsibilities, coursework, and research. This is one of the biggest challenges of graduate school and there is no formula that works for everyone.
3. **Lead 1:1 Meetings with James.** Individual meetings are a time to discuss your research, goals, time management, and any other issues that may be on your mind. It is your job to lead these meetings by sending James an agenda 24 hours in advance, by preparing slides (as needed) for the meeting, and by following up on any action items that are discussed. Do not wait for James to tell you what to do in these meetings – you should be the one driving the conversation.
4. **Develop Independence:** Your goal is to become an independent scientist. This means you should not hesitate to pursue your own ideas as they arise. Go to as many talks as you can to learn new things! Read (and re-read) papers in your field and outside it. Download that dataset and analyze it! Run that new model! Don't wait to be told to do things. Take the initiative.
5. **Focus on your Research:** Your research is the most important part of your grad school experience. It should be your main priority, and you should approach it with the seriousness and professionalism you would a full-time job. It is easy to get caught up in coursework or TA-ing, but at the end of 5-ish years, you need to have completed a dissertation.
6. **Stay in Good Standing:** it is YOUR responsibility to understand all of the formal requirements of the graduate school and the department, and to stay ahead of all deadlines regarding registration, paperwork, qualifying exams, committee meetings, etc.
7. **Do Some Soul-Searching:** it is your responsibility to think about what type of career you want to pursue (e.g., academic jobs that are research-focused or teaching-focused, non-academic jobs like data science or science writing). We can brainstorm ways of making sure you are getting the training that you need and exposure to paths that you may be interested in.

Undergraduate Responsibilities

Undergraduate students in the research group have a few core responsibilities.

1. Learn a lot

2. Keep track of and fulfill all college requirements
3. Work on average 10hrs per week (unless otherwise discussed)
4. Track time spent working honestly and accurately
5. Submit weekly written reports and/or slides to James
6. Attend lab meetings when consistent with your schedule
7. Be helpful, friendly, and open to new ideas