

Information For Prospective Watershed Science and Hydroecology Group Members

Below is information for potential 1. PhD/MS Graduate students, 2. Undergraduate student researchers, and 3. Post-doctoral researchers. See the appropriate category below.

1. PhD/MS Graduate Students

People in my group are typically based in the Department of Geological Sciences, and the graduate students are typically pursuing either their PhD or MS in Geological or Environmental Geological Sciences. Many are affiliated with the cross-campus, interdisciplinary Environmental Science Policy Program and the Water Science Network at MSU. The graduate program is flexible and you will have access to hundreds of excellent course options at MSU. I will help you navigate and select the most appropriate courses. Given the nature of our research, students have a range of backgrounds in our group though most are from geology, environmental engineering, and/or biochemistry/ecosystem ecology training. Students are regularly funded by Research and Teaching Assistantships, which also provide you with employee and health benefits/security. Students have access to large and active peer group across the many research labs and programs in the department and university who work on water. It is a vibrant and growing community. As I say “Water connects us all!”

My responsibilities to my graduate students:

1. Collaborate with you to develop and execute a research project, including how to adaptively manage research when things go wrong
2. Help you hone future career goals and then facilitate these goals
3. Help in identifying and writing for graduate student fellowships to secure your own funding and research revenue skills
4. Support travel to at least one scientific conference per year when you have new research to present
5. Meet with you regularly to discuss progress and plans
6. Help you get integrated into your new communities on and off campus
7. Facilitate regular lab member interactions including sharing of research with group

My expectations for my graduate students:

1. Be engaged in our group and our research community
2. Work collaboratively to develop and execute a research project with me and the group, but through strong, consistent independence and leadership on your part
3. Apply for graduate student fellowship(s)
4. Participate in (not just attend) departmental seminars, meet with guest speakers
5. Maintain detailed field and laboratory documentation and data management practices
6. Willingly participate in group field and modeling efforts
7. Participate in lab meetings, as a presenter at least once per semester
8. Execute your research plans and produce research products in a timely manner (manuscripts, presentations, data sets, codes)
9. Help supervise one undergraduate researcher student working with our group
10. Ask for help from me, your group members, and peers as needed

2. Undergraduate Students Researchers

Undergraduate researchers are always welcome in my lab. Undergraduates in my lab regularly participate in analysis of water samples from field and laboratory experiments, work on their own experimental systems/ideas, help with group field work campaigns, and have the opportunity to work with numerical models of freshwater hydrology and ecosystems. I primarily advise Geoscience undergraduates, but I am willing to consider undergraduate researchers from other disciplines, such as Environmental Science, Geography, Biogeochemistry, Fisheries and Wildlife, Civil Engineering, and Environmental Engineering. Research could be for a senior thesis for credit, or just to gain experience in research if you have an interest in graduate school. Depending upon funding situations, I am sometimes able to hire undergraduate researchers during the academic year and/or summer. Bottomline: self-motivated, hard-working, friendly students with any background may find a rewarding research experience in my group.

My responsibilities to my undergraduate students:

1. Hone your research interests and ideas
2. Assist you in becoming familiar with the research topic and/or methods
3. Keeping you active with actionable items that support your and group research goals
4. Meet regularly to maintain progress and adaptively manage your research
5. Help you identify and narrow future career goals, including fellowships and graduate school, and then facilitate these goals

My expectations for my undergraduate students:

1. Prepare for and participate in regular meetings to discuss progress
2. Maintain detailed laboratory notes and electronic data set on shared group space, including a summary or inventory
3. Participate in lab meetings, including at least one presentation for every semester you are with the group
4. Execute your research plans and produce research products in a timely manner (manuscripts, presentations, data sets, codes)
5. Apply for graduate student fellowship(s) and award(s) to further facilitate your research skills

3. Post-Doctoral Researchers

Post-doctoral researchers are typically appointed on a 12-month term, with reappointment depending upon performance and continued funding. Post docs are seen as both collaborators and mentors in our research group, and are encouraged to take on leadership positions both within our group and the larger scholarly societies our group interacts with.

My responsibilities to my post-doctoral researchers:

1. Development of a mentoring plan to help you identify and find your career goal
2. Training in methodologies and equipment used by our group
3. Review and revision of professional products (manuscripts, book chapters, presentations, guest lectures, course materials, etc)
4. Facilitate development of finding and applying for external funding
5. Helping you hone your ideas within your hired position as well as developing your own independent project ideas that you can fully-develop in a future position
6. Support travel to at least one scientific conference each year
7. Regular meetings to discuss your progress
8. Facilitate direct engagement between you and other related research groups on and off campus (i.e., support the development of your professional network)

My expectations for my post-doctoral researchers:

1. Be engaged in our group

2. Participate in lab meetings, as a presenter and mentor to other group members
3. Prepare for regular progress meetings
4. Set both short and long-term goals, and revisit them regularly
5. Attend departmental seminars, meet with guest speakers
6. Participate in office hours for mentoring group members
7. Directly supervise one undergraduate researcher student working with our group
8. Participate in group field campaigns and modeling efforts
9. Maintain detailed field and laboratory documentation and data management practices
10. Produce research products in a timely manner (manuscripts, presentations, data sets, codes)

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