

Vargis Lab Graduate Student Compact

“Good science can require a leap in the dark — and that leap might not be made if we’re too afraid to fail.” -Dr. Eileen Parkes

Welcome to the Vargis lab! This document serves as a way for you to understand our respective roles and how to navigate any concerns that may arise. As a professor, the majority of my time is spent thinking about new research ideas, analyzing data, writing grants, and disseminating our results in publications, conference presentations, and outreach activities. *You help with all of this!* We do these ethically while following good scientific method. This compact serves as the foundation of our relationship.

In my role as a mentor, I will help to train and advise you by communicating and contributing to your professional development. I will help you set goals and achieve them. As a team, we each play different roles, some of which I have highlighted here.

What I Expect from You

- Learn to design, plan, and conduct scientific and engineering research
- Learn how to present and document your results
- Be honest and ethical
- Be enthusiastic
- Be engaged with our research group
- Treat lab colleagues, research funds, equipment, reagents, and cells with respect
- Take advantage of professional opportunities in our group, on campus, and at conferences
- Obtain your degree
- Work hard, *particularly* during failure

This is YOUR Educational Experience

- **You have the primary responsibility for successfully completing your degree.** The steps towards finishing your degree include committing to work in classrooms and the lab, while maintaining a high level of professionalism, self-motivation, scientific curiosity, and ethical standards.
- **Meet regularly with me and our group to provide updates on your progress in writing, experiments, and data analysis.** Make sure you use this time to communicate new ideas about work and provide feedback about the challenges you may be facing. I want to help you, but can only do so if I know what is going on.

- **Work with our graduate program coordinator and the graduate school to be aware of policies, deadlines, and requirements.** Try your best to comply with all institutional policies, such as when committee meetings should take place and any rules related to laboratory safety and training.
- **Cultivate your professional development.** USU has many resources to support your growth as a biological engineering professional. I expect you to make progress in areas besides research, such as becoming a teacher and mentor or developing outreach materials for USU students and the Cache Valley community. You can find these opportunities through the graduate school and across campus. When I support your attendance at a conference, I expect you to seek out additional professional development opportunities and network to make the most of your attendance.

You Do Not Perform Research in a Silo

- **Attend and actively participate in all group meetings, as well as departmental seminars and faculty presentations.** Participating means more than presenting your own work. I also expect you to be active by providing feedback and asking questions, while avoiding unnecessary use of electronic devices.
- **Be a great lab citizen.** A shared lab means shared responsibilities and using limited consumables and resources carefully. Help maintain a safe and clean laboratory space. Strive to be respectful and tolerant while working collegially with all laboratory colleagues. Ask questions when you do not know how to do something.
- **Build a reputation as a good collaborator.** I will help support and develop collaborations within and outside our research group. Collaborations go beyond writing grants together. Instead, they require effective and frequent communication, mutual respect, and shared goals. Utilize meetings and cc'ing on emails so everyone is in the loop. Always acknowledge these efforts, particularly those that help us run major equipment (confocal, SEM, proteomics analyses, etc.)
- **Leave equipment better than you found it.** When using shared equipment or equipment that does not belong to the lab, follow any SOPs, guidelines, or training. Return equipment as soon as possible and if something breaks, do not hesitate to tell me right away. Mistakes happen and if we break something, we will fix or replace it.

You Will Develop Robust Research Skills

- **Advance and refine your research abilities.** During your graduate work, fill in any holes in your education. Maybe you need more experience with coding, SolidWorks, statistics, etc. You can spend time while getting your degree refining your expertise.

- **Present your work at meetings and prepare scientific articles as early as possible.** Publishing papers is the ticket to support your research and to graduate. Publishing should be at the forefront as you move through your graduate degree.
 - *Master's students* are expected to publish 1 paper as lead author
 - *Doctoral students* are expected to publish 3 papers as lead author
- **Keep up with the literature to guide your research.** Set up alerts with keywords so you can see what articles are coming out. Google Scholar will also recommend articles. Spend *at least* 1 hour a week reading articles and building up your library. When I was a graduate student, I was told to read one paper a day. Let me know if you want to set up a journal club to discuss papers as a group or over Slack.
- **Maintain detailed, organized, and accurate records in your laboratory notebook and comprehensive presentations on Box.** You do not have to scan each page of your laboratory notebook, but between that and your weekly research meeting presentations, I should be able to find exactly what you did to generate data and where your raw data is that is on posters and in papers. Upon graduation, you can take copies of your data and protocols, but your lab notebooks with appropriate documentation must stay in the lab. Everything digital must be in my Box folder (do not show up to meetings with a USB drive).
- **Be responsive to advice and constructive criticism.** Rejection is common and certainly no one likes it! But once you are in the right headspace, read over the rejection and the feedback and use that to improve your work and outputs.

You Will Meet Deadlines

- **Working towards your degree means that you have to work against deadlines.** Keep track of deadlines, such as those placed by granting agencies (i.e. fellowship due dates) or the graduate school (i.e. last day to submit your thesis to graduate), as well as ones that we set at the beginning of each semester. While you can decide your own schedule, you must continue to meet expectations. If you have any difficulty completing your work, please talk to me. If I need to follow-up with you about your work in the lab, I will consider your progress unsatisfactory.

Communication Will Become Second Nature

- ❖ **Tell me if you are having a tough time.** All of us have been new, disappointed, or scared at certain points in our careers, so I and other group members can likely relate to what you are going through. If you feel uncertain, overwhelmed,

discouraged, or need any additional support (i.e. more help, tissues, candy, etc.), please let me know. I am *always* open to these conversations.

- ❖ **Slack and Box are our main methods of communication.** You can either direct message me or post questions, concerns, and updates in the appropriate channel on Slack. Avoid emailing me please! Every manuscript, proposal, grant, fellowship, presentation, dissertation, thesis draft, etc., lives on Box. When we work on these files together, please follow this basic method for sharing and editing:
 - ❖ Your file in your Box folder (under Vargis Lab Data) is named Thesis_v1
 - ❖ When you are ready for edits, share the Box link to the file with me via Slack
 - ❖ I will rename the file to Thesis_v1_EV and add my comments there
 - ❖ When I reshare it, you immediately rename it Thesis_v2 and we start again
- ❖ **Be prompt.** Engage in our Slack channels, especially when someone is asking for help in the lab or feedback on posters and manuscripts.
- ❖ **Discuss policies on work hours, sick leave, and vacation with me directly.** You can do this also by Slack or in person. Reach out to your colleagues for help and backup when you are out of town. When I was graduate student, I worked between 50 and 60 hours a week on average, which included everything from running experiments and analyzing data to reading papers and writing manuscripts. While it is unlikely that I will monitor your time, I do have expectations of your work and outputs. I also expect that you will not exceed two weeks of personal travel away from the lab in a given year, but we can discuss as needed. I believe that striving for work-life harmony is essential but there will be times when work has to be the priority.
- ❖ **Understand how contributions to projects lead to authorship.** I expect you to submit research results as soon as they are in a publishable format. There are 3 components of a manuscript: doing the work, writing about it, and funding it. If you can say that you significantly contributed to 2 out of 3 components, you will be an author. We will discuss authorship order as it arises.
- ❖ **Mentor and train other students in our group.** I try to foster an inclusive environment where those who are interested in contributing to our research will have an opportunity to do so. To do this, I need your help in training undergraduate students and new graduate students.

What to Expect from Me

I am working for you and for our research efforts. The success and support of every member of our group is my top priority. I try to align my research goals with each student's personal career goals.

I will be available for in person meetings and over Slack. Usually, you will have to schedule times to meet with me, but you are always welcome to find me in my office.

I will help you with your program of study. While you are responsible for meeting deadlines that support your research and degree, I can help you figure out your overall plan, which courses to take, and select your committee members.

I will be clear about data ownership and authorship order. In most cases, it is very clear who the lead author or co-lead authors will be. I will discuss other people who may have contributed to this manuscript and the order of authors with you.

I will be your advocate. If you have a problem with someone in our group or someone else, talk to me. Together, we will figure out the best ways to solve it. The only time I will not speak up is during proposals and defenses. There, I will take notes and try to interpret questions, but I will not speak for you.

I am committed to mentoring you, even after you leave the lab. When you are my student, you will have ample opportunities for education, training, and advising. But my role does not end when you graduate. Contact me after you leave if you want to discuss career options and if you need letters of recommendation.

I will lead by example and facilitate your training in skills needed to be a successful scientist. These skills include oral and written communication, grant writing, lab management, mentoring, and scientific professionalism. I will encourage you to seek opportunities in teaching and outreach, to gain practice in mentoring, and to take advantage of events run by the graduate school, college, and department.

I will encourage you to attend scientific and professional meetings and will try to fund this travel. My goal is to support your travel to one conference annually when you are able to present, provided you also apply for matching funds (graduate school, college, professional society, etc.). Conferences are an opportunity to further your education so if you register for a conference, I expect you to attend the scientific and networking sessions. I will help you identify relevant opportunities.

My personal goal is to be supportive, fair, accessible, encouraging, and respectful.

Each student is unique with a different background and different professional goals. Graduate school is a job with high expectations, but it is a short time in your life that propels you to your next step. My role is to foster your professional confidence and independence by encouraging critical thinking and creativity. I am open to feedback and developing alternative strategies if you feel that I am not effectively mentoring you.

Yearly Evaluation

Every January, you will fill out a document detailing all your accomplishments from the previous year and your goals for the new year. We will also discuss post-graduate goals. As your advocate and advisor, I want to help you with any problems you have with other students, professors, staff, or myself. If you need more or less guidance from me, let me know. At this meeting, I will evaluate your progress towards your degree and provide you with some ideal guidelines, depending on your current stage within the program. I also usually come up with a key word as your focus for the year.

Remember, we are a team - your successes are mine. I am so happy you are on my team and I am certain we can achieve your goals during your degree and beyond.