



The Jo Lab Handbook

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LAB GOAL

Our main goal is to understand the basic rules that determine transcriptional programs in plants. Due to their sessile nature, plants developed special strategies to timely respond and acclimate to a dynamic and changing environment. When encountering stressful conditions, plants have the capability to undergo a complete transcriptional reprogramming to adjust their metabolism, growth, and development to acclimate and survive through environmental challenges. We are interested in a wide range of environmental responses with the core question in understanding how these changes are coordinated at a transcriptional and epigenetic level. We seek to build a solid scientific foundation in establishing methods that can help us understand plant environmental responses. Additionally, we hope to train the next generation of plant biologists to become more proficient in functional genomics and bioinformatics.

LAB CULTURE

Growth, Kindness and Community, these are the three words that best define the lab culture. First, I hope and expect that you will **grow** to become what you aspire to become. Starting a new educational journey (bachelors, masters, phd and postdoc) is extremely challenging. Sometimes (or most of the times), you will feel that you are not prepared for the challenges you will experience. And that's TOTALLY normal and fine! Every time that you enter the realm of "the unknown", **be kind to yourself and use it as an opportunity to learn something new**. We will work together to overcome those challenges so you will look back and say: "Wow! I learned so much! I'm incredibly proud of who I became".

As you embark on this growth and learning journey, it's important to be aware that this is true for everyone in the group (including myself; believe, I'm lost most of the times!). Thus, I expect everyone to be **kind and respectful** to others. Mistakes and misalignments will eventually happen, but It's extremely important that everyone feels safe and valued. Moreover, it is important to be aware that everyone has their own unique story (nationality, age, gender identity, sexual orientation, religion, socioeconomic background, etc), therefore it is essential that we treat these differences with care and open-mindedness. **Be kind to yourself and to others.**

Finally, I'm someone who believes that being part of a team means being invested in its success and wellbeing. I really hope we establish and maintain a sense of **community** where supporting each other is the norm, not the exception. It is important that we all think communally about each other's growth and not about only your own self. That means sharing knowledge, asking/giving advice, and ensuring



no one has to navigate this learning journey alone. Whether we're troubleshooting a failed experiment or celebrating a win, we do it together.

LAB POLICIES

WORK HOURS/BEING IN THE LAB

"How many hours do I need to work"? "How often do I need to be in the lab"? The initial expectation is that you work for 40-hour/week on your project. I expect to regularly see you in the lab and for most of the weeks, it should be daily. I believe being in the lab together is what builds our community culture because it keeps us accessible to one another and makes it easy to support each other. But more than anything my expectation is to be **flexible** because as you probably know, a few days things can get busy while not so much on others. Sometimes it is necessary to put in extra time to meet deadlines and to come in to move experiments along during the weekend. Ultimately, your project and organization will decide the number of hours you have to work, but with proper organization and self-development, I hope you will create a system where you can work (at most of the time) for 40 hours a week.

TIME-OFF

With responsibility, it can be taken at any time. It's not necessary to let me know if you're taking a day off. I only ask to be informed if you are missing a group meeting. Justification for the time-off is not necessary, but you are welcome to do it. Be mindful of your responsibilities, but if you are done with your tasks in the day, it is totally fine to leave early. For any time off lasting more than 2 days, then I will ask to let me know (just so I know that nothing wrong happened to you!).

VACATION

Aside from university holidays, you are entitled for 30 days of vacation a year. You are free to decide when you want to take your vacations, and you are encouraged to take advantage of all of them. Make sure to fill your vacation time in the Self-service page at UU. I'll ask you to let me know ahead of time if you will be going on vacation. You are responsible for organizing the care of your experiments, plants while you are out.

COMMUNICATION (EMAIL/SIGNAL)

I don't have problems with communication outside of work hours. If you have an urging paper that you want to share, a cool result you produced or you just want to vent about a failed experiment, **feel free to reach out at any time**. I may not immediately respond, but I will do my best. This however is my own personal style. Be mindful of other members of the group when sending messages outside of work hours. Unless it is an emergency, please consult with your colleagues how they feel about



communication outside of work hours. If I send a message outside of normal work hours, I don't expect to receive an immediate response, so no action is needed to be taken unless it is an emergency.

GROUP MEETINGS

As mentioned above, community is an important part of the lab culture, and group meetings is an important aspect of it. **Once a week** we would meet as a group where each one is expected to share with other members of the lab any recent development on your research, as well as sharing potential ideas or issues with your experiments. I want to stress that these meetings are not intended to create pressure that you need to present new data (although you are always welcome to do it), but just to update on what you did and what their plans are for the upcoming week. With frequent updates, everyone will be aware of what everyone else is doing and it will create opportunities for supporting each other.

My expectation is that everyone in the lab should value this meeting as a really important time and while, missing meetings due unforeseeable circumstances are totally fine, we should all make the effort to participate. Participating also means actively engaging in discussions, asking for advice, teaching a new tool and helping each other out.

In addition to the group meeting, we also have the work discussion, where members of the PSR group have a chance to present their work in a more "Traditional" meeting format. The purpose of these meetings is for a single member to give a seminar-style update to the group. Everyone from PSR working on a project is required to give these presentations ~2-3 times a year. These meetings are a safe space to practice your presentation skills, craft the story of your project, and work on data visualization. **Because growth and development are a big part of the lab culture, I hope that you will use these group meetings to train and improve your presentation and communication skills.**

ONE-ON-ONE MEETINGS

The one-on-one meetings will serve the purpose for discussing topics related to self-development, career reflection and non-science related topics. For science and project related topics, I prefer that we use the group meetings, so that other members of the group are also included in the discussions. But of course, during the one-on-one meetings we can also have a more detailed discussion about experiments, planning and other project related stuff. These meetings can be weekly, bi-weekly, or monthly, depending on our mutual agreement. Outside of our planned one-on-one meetings, you are always encouraged to ask for additional meetings at any time.



MENTORING

“It is likely that my greatest impact on science will be the contributions made by the students that I have educated” – John Harada (Emeritus Professor, UC Davis)

I truly believe that mentoring is one of the most rewarding aspects of my job. I take this responsibility very seriously. A great part of my personal development was a product of the great effort of the incredible mentors who guided me throughout my career. Thus, my main mentoring philosophy is to help the members of my group with the same passion and help them achieve their goals. Because each candidate will bring their own personality and aspirations, my goal is to keep myself flexible to recognize and respond to individual differences. I will foster a culture of **mentoring-up**, so that mentees can express their expectations of my role as a mentor. But as for a general mentoring style, here are some practical things you can expect from me:

- I will be committed on helping you **grow** as a critical thinker who can address challenging scientific questions. We'll chat frequently about your personal development and the things you are learning and doing.
- I will demonstrate **respect** for all individuals without regard to gender, race, national origin, religion, disability or sexual orientation, and I will cultivate a culture of tolerance among the entire laboratory.
- I will be committed to your **research project**. I will show genuine interest in the status of your project and I will work with you to guide and plan the research project, set attainable goals, and a timeline for completion of the project. My goal is to make sure you should never feel that you are doing your project by yourself. This mean also that I will be involved when you are preparing presentations, sending abstracts for conferences and writing manuscripts by providing feedback in a timely manner.
- I will be committed to being **available and accessible**. I will regularly review your progress and provide timely feedback and goal setting advice. **If my door is open, you can stop in**. Moreover, I will work towards establishing a safe environment where you can share and propose ideas. We will generate an Individual Development Plan (IDP) and jointly review progress and goals every year.
- I will **value** you and your growth. I will do my best to build a culture in which your scientific identity is rooted in your growth rather than performance. This means that I will value your efforts in learning from a failed experiment, troubleshooting and thinking about solutions rather than producing the perfect result all the time (still awesome!).
- I will be **transparent** and upfront about my expectations. If I notice a pattern of poor research productivity or time management, I will address these in a timely manner through a one-on-one conversation. We can jointly plan for how to get back on track.
- I will actively work on the **development of professional skills** needed for a successful career. These skills include but are not limited to oral and written communication, writing fellowships, management and leadership, collaborative research, responsible conduct of research, teaching, and mentoring. I will encourage the student to seek opportunities to develop skills in these areas outside the lab as well.



- I will be accessible to **give advice**, feedback, and guidance/networking opportunities to help prepare for your career goals. I will provide letters of recommendation for your next phase of professional development.
- I will encourage the graduate student to **seek input from multiple mentors**. I will help guide students, if necessary, in finding appropriate external mentors. One person cannot be all things. You need a team of individuals to help provide feedback and expertise. These external mentors will be your network as you move forward in a scientific career. However, it is up to YOU to cultivate these relationships.

MENTEES RESPONSABILITIES

You are also greatly responsible for the mentor/mentee relationship. In this sense these are some of the things I expect from you:

- **Acknowledge that you have the primary responsibility for successfully completing your PhD/Postdoc.** This includes commitment to your work (including planning, experiments in the lab, data analyses, presentations, conference attending, paper writing, etc). You should maintain a high level of professionalism, motivation, engagement, scientific curiosity, and ethical standards.
- **Organize your data and record keep and maintain good notes.** I am a stickler for data integrity; this is one cornerstone of reproducible research. I find it difficult to work with individuals who do not have their data organized and notes. For lab notes, UU requires that we use eLabJournal. You are free to create your own method for lab note taking, but at the end of your experiments, these need to be uploaded into eLabJournal. It is of extreme importance that you write all the information necessary about each experiment. All data acquired by you (including raw and processed data) should be saved/organized following the rules of the data management plan (DMP). Glycerol stocks, plasmids, and primers and seeds need to be formatted in the standard lab format and uploaded to our inventory (ask Evelien from PSR).
- **Be knowledgeable about the policies, deadlines, requirements of the school, the EPS, and university.** Comply with these policies, be up to date. This includes rules related to chemical safety and biosafety. I rely on you to keep me informed about your deadlines, especially if my actions are required (e.g., signatures, recommendation letters).
- **Organize your work week.** Plan experiments that need to be done each week and allot time for them. Keep a running list of smaller experiments/tasks to do as well. Multi-task while you are in the lab to maximize your research output.
- **Ensure that you are prepared to share your results/progress/struggles during our group meetings.** Have your eLabJournal up to date and any presentations or questions prepared. Communicate any new ideas or problems that you are facing.
- **A good work-life balance is important.** Everyone has a different balance that is optimal for their own happiness while still allowing you to achieve your career and scientific goals. Think about what your career goals are and the commitment it will take to get there. Science is a marathon. If you are disciplined and focused, you can make excellent progress and have good work-life integration. Take time for your physical and mental well-being. Do something you enjoy each day. Don't work seven days a week; you will burn out and be less creative.



- **Get the most/best of your experience.** Be passionate about the learning process; don't focus only on the outcome, enjoy the journey; take advantage of everything you have available (courses, infrastructure, supervision, etc). You will probably face many hard/frustrated moments (experiments that did not work, papers/grants/fellowship rejections, criticisms by others, etc), believe or not, these are the moments we learn the most. Try to focus on your resilience. I'll be here to give you support.
- **Help others with patience and kindness.** As mentioned in the lab culture, I expect that you treat others with kindness and respect. If someone helped you with kindness and patience, and you valued it for your learning process, you should reproduce the same for others around you.
- **Work along other members of PSR.** We are embedded inside the PSR group. You are expected to interact with the same level of kindness and respect to other members of PSR.

AUTHORSHIP AND PUBLICATION

As a rule of thumb, anyone who contributed intellectually with the project, should be acknowledged as an author. This contribution includes mainly conceptualizing the research idea, performing experiments, analyzing the data and contributing with the discussions. We don't decide the order of authorship at the beginning of a project. Things can change over time, and some individuals may end up contributing more than others. It is important to be aware that things change, and we are all trying to be fair with everyone. When it is clear we have a publishable story that is over half finished, I will meet with the group, and we can decide authorship order. Because the first author is the main contributor of the work, I expect their final word in deciding who should be in the paper and what the order of authors should be. Of course, if the someone doesn't agree with the decision, they can always talk to me and we'll discuss. I will encourage open and honest communication about authorship concerns or disagreements, addressing them promptly and fairly. I will work with each student to help plan how to write each section, sketch out figures, provide general feedback, and polish each paper.

FINAL THOUGHTS

Writing this handbook was a very good exercise. For many years I have observed many different opinions and perspectives on how to build a positive lab culture. I will do my best to abide to match with your expectations and I hope you will do the same. Of course, we are all new in this, so I'm sure we will face some challenges. Let's all help each other and treat each other with kindness and empathy. I expect this document to constantly being updated with the contributions of everyone in the group. Therefore, I also ask for your help in constantly communicating things that are not working and how we can improve this handbook.



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I'm not ashamed to admit that I took inspiration and copied parts of other lab handbooks. This handbook was inspired by Dr. Gitta Coaker (UC Davis), Dr. Emilyn Matsumura (WUR) and Dr. Kelvin L. Cox Jr (WashU) lab handbooks.