

## Expectations in the Poveda Agroecology Lab\*

(\*adapted from the lab expectations of Profs. Angers, Thaler and Adler)

### Expectations for all lab members

#### Be a good lab citizen

- For this academic year (22-23) please follow all University, Department and lab COVID rules. Participate actively in lab meetings. Come prepared to contribute to discussions with ideas and questions. Lab meetings are a safe space for the free exchange of ideas, at any stage of a project and no matter how well versed you are in a topic – no grading, no judgment. But this is not the same as coming unprepared. If you find that you are a dominant voice at lab meetings, make sure that others also have opportunities to speak.
- Take on your fair share of responsibilities for maintaining common lab space and equipment.
- Promptly report mistakes or problems. They happen to everyone and we can then try to fix it together.
- Pitch in to help lab mates when they need it, whether it is a hands-on project or providing constructive feedback on an idea or draft. They will do the same for you.
- Contribute positively to the social dynamic of the lab. Be present, be engaged, and suggest activities that will help us connect.
- New students should consult with more experienced lab mates for advice and help with navigating their way through graduate school as well as on lab policies. Senior students and postdocs should mentor newer students.
- Celebrate major milestones of others
- Keep an eye on lab deliveries. If you see something that needs to be in the freezer or fridge, move it there and email the recipient.
- Use the Google Calendar to reserve time on shared use equipment and spaces
- Wash your dishes as soon as you are finished using them.
- Treat each other kindly and with respect and communicate early if any conflicts arise.
- Leave the lab “clean and organized” so that others can also work
- Wash all containers at the end of an experiment
- Label items with lab tape (not masking tape)
- Return items to their places at the end of the day
- Take care of the equipment
  - Microbalances should only be used for tiny things and you should avoid moving them
  - Black lab benches are used for “clean” work (insect IDs, dissections, chemistry) and lab table is used for “dirty work” (processing plant material, sorting bulk insect samples)
  - All items placed in the freezer should be labeled with your name, date and contents (if not they might be discarded)
  - Pinned insect specimens should be kept in cabinets to prevent dermestid infestations.
- Participate in cleaning days
- Compost: if you fill a bin or put something rotting in it, you should take it over ASAP
- Share/communicate needs, so that we can help but also plan accordingly for changes

- Attend each others presentations and be supportive
- Help each other
  - Provide examples of successful grant proposals
  - Lend a hand when others have an intense experiment running
  - Through mentoring

### Be engaged in the broader research community

- Go to at least 1 seminar per week (e.g. PIG, Pollinator reading group).
- Go to the JUGATAE seminar every week
- Participate (when possible) in department activities such as SNEEB, Department Coffees, Department Picnics, Insectapalooza, annual Department Symposium, among others.

### Maintain regular communication with me. This means:

- Inform me of your research and course activities, particularly when (or preferably before) you find yourself overwhelmed. I want to help you, but I can't help solve problems I am unaware of. Before asking questions or bringing forward a problem, please make the effort to research the topic. This way we can use our time together to discuss various potential solutions or options.
- Meet with me regularly (biweekly or weekly) when on campus. When one or both of us are in the field, send regular reports by email. For technician and undergraduates not working under my direct supervision make sure to meet with your direct supervisor (PhD student, postdoc) at the same intervals.
- Stop by my office informally to share cool results, report problems, get a signature, etc.
- Copy me on all written communication with our research collaborators. Also, inform me right away of any event or action that has the potential to cause concern among our collaborators or people outside our research group.
- Use direct messaging through Slack/text for quick logistics things or rapid back-and-forth about a project. Use email for things that don't require an immediate response and things that I should earmark for later attention (e.g. requests for letters of reference).
- Independently organize materials and coordinate assistance needed for the successful completion of experiments. When purchases are required, determine costs and consult with me about ordering.

### Expectations of Graduate and Post-Doctoral Students (many apply also for technicians)

Graduate and post-graduate work is a mutual investment in the process of learning and producing peer reviewed science. It is accomplished through the joint efforts of the advisor and the graduate student or post-doc. Like most relationships, it requires hard work and good communication. The following is a list of expectations and responsibilities that are meant to guide your journey.

- Professionalism and mutual respect –Your job is to produce high-quality science and develop into an independent researcher. My job as a supervisor is to foster successful research outcomes for everyone in the lab and to mentor you as you pass through this stage in your career. We are all colleagues and should be conscientious about our responsibilities to one another.

- Communication – I ask you to be responsible in discussing projects with me early and often. Frequent updates on projects, both ones in which you have made a lot of progress as well as ones that haven't changed much, are useful. On my side, I will give you feedback as quickly as I can.

On a broader note, I respect your privacy and will avoid asking you questions about your personal life. That said, our professional lives do not exist in a vacuum, and personal lives can sometimes affect our ability to do our jobs, or constrain our professional options. I make an effort to maintain an open mind and supportive environment for everyone in my lab, and encourage you to talk with me if any issues are affecting your ability to do your job. I can't promise to have solutions, but I can listen to your concerns.

For postdocs (and often **technicians**), I understand it is a challenging position due to its short-term nature. I understand that you may feel obliged to go on the job market before the ideal time in terms of the research goals, or your 'dream job' may come up sooner than expected. My hope is that we can have open communication so that I can support you in your long-term goals while still managing completion of the grant objectives.

- Commitment – Graduate school is hard, no doubt about it. I expect you to do well in your classes and to push yourself hard to accomplish research goals on time. This does not mean I expect you to live an unbalanced life; building in personal time is rejuvenating and necessary.

- Enthusiasm - Research is rewarding and many parts are fun. Step back every once in a while, and remember that we have the incredible privilege of studying whatever we choose.

Make sure you enjoy it!

For graduate students specifically

- Be prepared to work hard to finish in a timely manner, 2-2.5 yrs for masters and ~5 yrs for a PhD.
- In general, 1-2 publications are expected from a M.Sc. Student, 3+ from a Ph.D. student (ideally at least one published), and 1-2/yr from a Postdoc, depending on the project.
- Do not submit a thesis chapter to other committee members until we have mutually agreed it is ready for circulation or have agreed it is prudent to do so. This is to ensure we do not wear down our busy colleagues and that you get the very best feedback.
- Grad school is hard and inevitably there will be setbacks. You should have back up plans for your thesis chapters, and I will help you make them. Something(s) will fail, but that is ok if you are prepared.
- You are responsible for knowing and meeting the requirements of your department and the graduate school in a timely manner. Know the graduate forms that need to be filled out and deadlines for submission. Talk to the graduate secretary, to your lab mates and other experienced graduate students. A few things that you would need to take into account in the Entomology Department:

- Form a committee (latest at the end of first year)
- Have a first committee meeting (latest at the end of third semester)
- present a ~½ hour seminar to the department [on a yearly basis starting in year 2; PIG, annual department symposium, etc.]
- Have annual committee meetings [after year 1]
- Present your A-exam [latest by end of fifth semester, regularly in the 4<sup>th</sup> semester]
- Present your B-exam [at end, of course; within 5 years]
- Participate in Jugatae grad student organization & recruitment weekend
- Select a committee in consultation with me and set up yearly committee meetings.
- You should have a well-rounded research proposal with solid and obtainable research objectives by the end of the second semester. This should be comprised of an introduction justifying the importance of the research followed by logical, well-researched methods for achieving the research objectives as well as a timeline of research and a discussion of the study limitations and potential pitfalls that may be encountered.
- If you have problems or concerns that you feel you can't discuss with me, I strongly encourage you to talk to the graduate adviser and/or trusted faculty members. There are additional resources outside the department to which they can point you if necessary.

### **Job expectations (treat grad school as your job)** This means:

- Keep regular hours. You are free to set your hours, but I do expect you to be in during more or less regular business hours so that you can work with and help lab mates. You do not need to ask me about short-term absences (e.g., doctor's appointment, home with sick kid/pet, etc.) provided that you arrange to have any work obligations taken care of. It is fine with me if you prefer to have some writing time at home or away from the lab (I usually stay home one day/week to write). However, please communicate this with me and discuss with me if you plan to work away from the lab for more than 1 day/week.
- How many hours? For graduate students, this will vary according to other activities and commitments and the fluctuating demands of your project. Hours dedicated to research may be as low as 15-20 hours/week when taking classes and TAing to more than 40 hours/week when meeting deadlines or in the crunch of a field season. For postdocs/technicians a 40-hour week is expected.
- For graduate students, there are many responsibilities and activities you can and should take part in, but you must schedule regular time for research so you continue to make progress. If you wait to do research until you have nothing else on your plate, you will never get to it.
- Write early and often. Set aside your sharpest time of day for daily writing. Aim for at least 30 min/day at every stage of your program. Form a peer support group to help set and enforce weekly writing goals.
- Work-life balance. In the lab we care about work life-balance, which means that you are not expected to work during your vacation time or on weekends. However, certain tasks, such as field work, active experiments, or colony maintenance may require work on weekends and during university holidays. When possible, we generally try to design experiments to minimize these conflicts. More extensive periods of work will usually be only within a specific part of the year rather than year-round, and we can discuss additional rest during slow times to make up for particularly hectic periods. Not working during vacation time and weekends includes not being expected to be constantly available, and therefore lab members will not be expected to reply to emails during these times. In case of an emergency I will try to contact you via text or

phone. Likewise, it cannot be expected that I will check my email on weekends or during my vacations. In cases of emergencies during these periods please call or text me (607-2167880).

- All lab member can expect to take reasonable **amount of vacation** (normally between 1 and 3 weeks in addition to the Cornell holidays), the details on pay and time will depend on your position. If you are planning to take vacation please make sure to communicate this in time, so that we can plan accordingly.
- Performance evaluation. We have yearly performance evaluations for graduate students, postdocs and permanent technicians. At the beginning of your time in the lab, let's set up clear goals for the year, that can be evaluated a year later.

### Use best practices for open, reproducible science

- Data deposition and open access after publication are the new norm in the lab. I expect digital copies or archival access of all data with proper written descriptions (metadata) to be located in the Cornell box for our lab. Each project should have a folder and all subfolders and files should be clearly labelled
- All code should be annotated, version-controlled and archived in the Cornell Box.
- I will not be able to sign your thesis until the metadata, data, and code files have been provided to me. Exceptions must be agreed upon in writing by all invested parties.

### Work towards becoming an independent researcher

- Time management is vital. Set short- and long-term goals and outline plans for how to achieve them by breaking them down into daily and weekly tasks. Revisit your goals lists regularly. Be realistic about how many hours per week you can dedicate to your research (put blocks for it on your calendar, alongside all other commitments) and use this to schedule your time. Work hard to meet mutually agreed upon deadlines, even if they are informal.
- Read and stay abreast of the literature in your area. Expect to be asked questions at your defense on general knowledge in your area, reaching back to seminal papers and books. Find a good way to database and track what you read (e.g., annotated bibliography, Papers, Mendeley, etc.). Keep me informed of cool things you find!
- Practice giving and receiving constructive criticism. Not everything you say or write is brilliant, same goes for me and everyone else. So be open to criticism, offer your opinions, begin developing your reasoning and argument skills. Don't be afraid to respectfully disagree with me or let me know when I am wrong about something.
- Start practicing the financial aspects of being a PI: Seek out small grants to support your data collection and attendance at meetings and workshops. Prepare a budget for your project. Maintain an informal log of expenses and keep within the agreed upon budget.
- Be proactive on permits, agency reports, and other paperwork required for your research. Acquiring permits and permissions can take weeks to months to secure so plan accordingly. Please make sure that I have the opportunity to review documents prior to submission.
- Aim to give a presentation (poster and oral) at one conference per year. I try to support a conference per year for each member of the lab that is going to present work done in the lab. However, funds are limited, so you will need to apply for travel grants and we can discuss other ways to pay for conference travel. All abstracts on which I am coauthor must be sent to me for review prior to submission at least 1 week before the deadline. If you will need help with your

experiments while at the conference, this needs to be communicated in time to make sure somebody else can take care.

## Authorship policy

- All data generated in the lab or lab related activities and with funding (full or partial) from the lab should be assumed that will be published with me as a co-author. Please involve me from the beginning in any new research ideas, so that I can provide feedback. Authorship can be a major cause of stress and this is why this should be discussed early and often with me and other co-authors. The general lab policy on manuscript authorship is to be generous whenever possible. Of course, generosity will always be tempered by only including authors who have made a significant contribution to the work.
- If you wish to become involved in other projects in or outside the lab, communicate authorship details with collaborators and with me before contributing to a project. Different people have different ideas about what earns authorship, and therefore all authorship decisions must be discussed with me. To protect all lab members, if you do not clear authorship decisions with the authors before you contribute to a project you will not be listed as an author unless all co-authors retroactively approve. To protect yourself, if you expect authorship then talk with your coauthors and me before you put in any work. To avoid issues around power dynamics, more senior lab members should talk with the PI about co-authorship before approaching more junior lab members about being co-author on their paper. If you feel that I should not be a co-author on a paper, if for example, you are doing work with other collaborators, this is fine, but still let me know, what you are working in and how much time you are devoting to other endeavors.

If the publication is connected to a contract/grant with an agency or a pre-established collaboration, I am responsible for fulfilling the obligation of publishing the results within a timely manner. I will need to make alternative arrangements for publishing the results if lead/co-authors cannot meet a reasonable timeline. The previous author's name will be invited to remain on the paper as long as the authorship requirements are met (or exceptions are granted).

This is an internal document intended to guide our within-lab policy; external colleagues may have different approaches. Exceptions to our policy may be made at the discretion of the PI and lead author, such as inviting co-authors who make specific contributions that do not fall into the categories below.

In order to be considered as a co-author on a publication, you need to have contributed to **at least** one (ideally two) of the following:

- Designed research (developed the questions and experimental design)
- Conducted the experiment (problem-solving and judgement calls, not just collecting data)
- Supervised/had oversight and responsibility for the organization of the project
- Developed extensive new protocols or analytic tools specifically for that experiment (such as a new protocol for quantifying chemical compounds from plant extracts), and wrote the methods for that protocol/tool
- Obtained the funding for the project
- Analyzed data and wrote associated methods/results; created figures

- Wrote the paper

**And** read, provided feedback and approved of a final version of the manuscript.

Here are some more detailed guidelines:

Ideally the conversation happens at the beginning of a project, even if it is unclear if a paper will come out or not.

Be clear on what you expect from a collaborator to earn authorship

What grants authorship?

- Writing the manuscript
- Data contribution
  - Definitely true for unpublished data
  - Also true for published data where the person contributing data also contributes significant data handling/management/additional data/metadata
  - Published freely available data, *usually* not worth an authorship
    - May need to be made on a case-by-case basis, depending on if the owners of those data contribute in other ways/how central the data is to the project
- Stats
  - Substantial contribution performing/ understanding /selecting statistical methods
    - Must include reviewing final output product
    - Have the *conversation* if someone starts to contribute 2+ hours of help/advice
  - Routine advice = not authorship
  - Stats Consulting Desk
    - Check the department/university policy regarding co-authorship (figure out where the cut-off for co-authorship is)
    - One one-hour meeting (or similar) would qualify as “routine advice”
- Editing/Major Revisions
  - Only applies to deeper comments (structure, framing, theoretical context), not just line edits or brief wording suggestions (this is when you offer authorship)
    - Edits/comments that *transform the paper* and they continue to *engage* with that transformation/updated paper
- Intellectual contribution (question, experimental design, logistics, methods. Not just one idea) (did they contribute to the idea and not just did what was expected from him/her?)
  - “Question” depends on degree of specificity - casual conversations, broad ideas, broad theoretical context is not a large contribution
  - Aspects of exact approach, execution, specific system, more detailed design of how to answer a question
  - Offer to collaborate/co-author with person who first had idea when you can/when it makes sense, especially when idea is more detailed

- Try to be aware of if they were already planning to do the project themselves or if they were just sharing ideas overall
- The author should be able to explain the context, execution and impact of the project (for undergrads to present their project and know what they did; ...)

Undergraduate co- and first-authorship. We have a strong record of publishing undergraduate honors thesis/independent research, which benefits the undergraduate, the mentor, and the lab. I try to be upfront with everyone involved about the authorship possibilities. That said, whether an undergraduate independent or honors thesis results in undergraduate co-authorship on a paper will depend on many factors, including luck and the level of undergraduate involvement in the writing process, and so it is often necessary to revisit authorship status as a project progresses. Here are examples of several possible outcomes of an undergraduate project:

1. Some projects are not intended to be publishable from the outset; these include those in which we test a methodology or run a pilot study. I try to be explicit from the start when this is the case.
2. Some projects result in unpublishable data through no one's fault. For example, we've had periods in the lab when bee mortality was inexplicably high, resulting in very low sample sizes in spite of lots of effort. These will not result in publications.
3. Some projects produce publishable data, but results do not tell a clear or compelling enough story to stand on their own as a publication (again, this is no one's fault – just how science goes sometimes). These data are often combined with other studies to make a more complete publication. In this case, the most likely outcome is that the undergraduate would be a co-author but not first author. The order of co-authorship would depend on how much the data adds to the paper and the extent to which the undergraduate contributed intellectually to the manuscript.
4. Some projects are publishable on their own as a manuscript. That said, even the best honors theses require substantial work to become a manuscript ready for submission; this work is often heavily guided or completed by the mentor or the PI. In this case, whether the undergraduate will be a first or co-author on the manuscript will depend on the level of intellectual contribution throughout the process producing the manuscript.
  - a. If the undergraduate continues to be intellectually involved in the process of turning the thesis into a manuscript, including participating substantially in the writing process, then the undergraduate would be first author.



b. If the undergraduate is not involved in the manuscript preparation process beyond submitting the thesis, but the thesis is of a high quality such that substantial portions of the thesis text remain in the final manuscript, the undergraduate will usually be first author and the person who prepared the manuscript for publication would be a co-author.

c. If the undergraduate is not involved in the manuscript preparation process beyond submitting the thesis and very little of the thesis text remains in the final manuscript, then the person who prepared the manuscript for publication would be first author. In most cases this would also be the person who mentored the thesis.

## Mentoring

Mentoring is not required, but it can be greatly rewarding and an opportunity to boost your CV and sometimes increase your publications. There are many talented undergraduates at Cornell who are interested in doing research. Several of our undergraduate honors theses have been published, either with the undergraduate as first author or by combining studies to create a more high-impact paper.

Undergraduates can work in the lab for course credit, be paid if they have work study funds, volunteer (rarely), and/or conduct independent research, often as an honors thesis. I am happy to talk more about the details and pros/cons of these various arrangements. Some general advice to keep in mind when mentoring:

- Gear your expectations appropriately for the student in terms of their experience, abilities, interests and goals.
- Convey expectations clearly. Ideally write a document of goals and expectations and communicate it with me and the student, so that we are all on the same page.
- Remember that you are a role model, and students will emulate your behavior. Treat others with respect, demonstrate responsible research conduct, and model good safety practices.
- Let me know about any concerns with student behavior. I am ultimately responsible for the environment, research quality and safety in our lab. If there are issues, I would like to know about them before they become large problems.

Attending conferences. Because feedback improves our science, I strongly encourage everyone in the lab to present their work at lab meetings and relevant scientific meetings (e.g. ESA, ESA, Gordon Conference, ICE, etc.). You are now an ambassador for the lab as well as a member--- our reputation will partially be formed by how you interact with our colleagues.

## For undergraduate students

- classwork is a priority over research. There are times of the semester that are busier than others, just be sure to communicate with your research mentor on any schedule adjustments.
- work conducted for credits (1 credit = 3 hours per week) is not eligible for pay

- attend lab meetings if your class schedule permits
- pursue [CALS Undergraduate research grants](#) or [CALS Alumni awards](#) to fund your project
- If you are doing independent research in the lab, we expect you to present your research in poster or talk format in the Jugatae Undergrad Research Session (thesis) or during the January Symposium or the OUB meeting.

## What to expect from me

- Provide a **lab environment amenable to learning**, open discussion of ideas, and producing credible research without discrimination or harassment.
- Along with your supervisory committee, **guide you through your graduate studies program** including courses and research.
- Be **explicit about my expectations** including what I expect from you and what you can expect from me. A yearly review of this document with all lab members will hopefully help with that.
- Meet with you regularly during the semester (biweekly or weekly) to discuss your research ideas, results, and progress. I will do my best to provide input and feedback, but I won't know the answer to all questions; you are likely working on new and exciting projects that require new techniques. Seek advice from fellow students, statistical experts, committee members or other faculty as necessary. During summer and winter breaks, individual meetings will be scheduled on a case-by-case basis. During field experiments come to the field site or site of the experiment, at least once during a season to see the study systems to provide more informed advice.
- Provide timely and constructive feedback on written research questions, proposals, progress reports, thesis chapters, and publications. I aim to give feedback within two-three weeks, and will let you know otherwise.
- With your help, provide reasonable resources and financial support to meet mutually agreed upon research objectives. I will not be able to provide financial support beyond the end of departmental, project, or scholarship support. I will do all I can and provide guidance and suggestions, but resources are finite.
- With help from everybody in the lab recommend funding opportunities both externally (NSF, USDA, Sigma Xi) as well as internally (within Cornell or the Entomology department).
- Set a good example for all members of the lab in terms of department participation (i.e., attend Jugatae seminars, social events, Insectapalooza, etc.).

- Acknowledge appropriately your contributions to research and other efforts in presentations and publications.

Share and encourage the use of resources that help improving skills such as teaching, oral and written communication, grant writing and career development.

- Notify you in advance of any anticipated, prolonged periods of travel or leave and, in consultation with you, set up structures to support you during my absence (e.g., a faculty mentor on campus, alternate lab meetings).
- Assist you in transitioning to the next stage of your career in a reasonable manner, whether that is academic or non-academic. Some of the main ways I do this:

- o Encouraging and supporting networking opportunities (e.g., conferences and workshops).

- o Submitting reference letters. Please let me know at least 2 weeks in advance

and provide me with an email with the following info:

- § The opportunity for which you are applying

- § The due date

- § Name (if known), institution, and address of the person/committee to whom the letter should be addressed

- § Instructions on how to submit the letter (email address, physical address, etc)

- § Any instructions on what the letter should discuss.

- § Send a reminder 3-5 days before the deadline.