

# Lab Handbook

## Wong-Parodi Lab

2021-2022

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## **Lab Philosophy**

The Wong-Parodi Lab is fully committed to a supportive, inclusive environment where different voices and perspectives are valued. We are passionately dedicated to diversity along different axes –including, but not limited to, race, ethnicity, academic discipline, socioeconomic background, nationality and age. A variety of backgrounds in our lab facilitates creative, collaborative, and innovative research and intergroup dialogue. These perspectives are crucial to our community-engaged work and enhances the quality of our science. In our academic research, we continue to reflect on how our study areas – such as climate change and energy – intersect with issues of inequality, justice, and power. We are devoted to building a safe, welcoming community through weekly lab meetings, one-on-one mentorship, and undergraduate research opportunities.

Dr. Gabrielle Wong-Parodi was born and raised in San Francisco in an ethnically and culturally diverse household. This foundation and her life, work, and educational experiences underpin her research and teaching philosophy, structure of the lab, and design of the courses she teaches. The students, staff, and post-doctoral fellows in our research group also hold a range of experiences and come from different backgrounds, with respect to ethnicity, nationality, career paths, disciplines, and more. A number in our group are also involved in outreach and community engagement, such as the SESUR Program, Letters to a Pre-Scientist, community initiatives like Climate Ready North Fair Oaks, community development groups in Pittsburgh, and policy engagement initiatives like the Platform on Disaster Displacement Advisory Committee –as just a few examples. We value experiences and collaborations to share our science with others and to implement our findings with the communities we partner with.

Although the Wong-Parodi lab is not currently accepting new students, we are committed to broadening diversity in our field and assisting students interested in research. We also recommend visiting Stanford Earth [Diversity, Equity, and Inclusion](#) (DEI). DEI coordinates diversity programs within the School of Earth, Energy and Environmental Sciences, as well as provide helpful resources for prospective graduate students.

Lastly, but certainly not least, our lab recognizes that Stanford University sits on Muwekma Ohlone land. We are grateful to the Muwekma Ohlone people for the opportunity to learn and grow as scientists on this land, and for reminding us that our research interests on global environmental change is interrelated with indigenous rights. The Wong-Parodi Lab carries this gratitude and acknowledgment in our community-based work.

## Lab Communication

### Slack

Slack is a communication platform where the lab can integrate Google Calendar, Box, Zoom, and many other frequently used apps in one place. The Wong-Parodi Lab slack is a part of the Stanford University “Organization” (see [here](#) for more details on Slack Organizations), therefore it is necessary to have your Stanford credentials or permissions to successfully join this workspace.

### Using Slack

If you haven’t used Slack before, it may seem daunting initially, but it is very customizable and a nice way to organize lab communication once you have the hang of it. This video is a quick 2.5 minute video for an overview of Slack features: <https://youtu.be/9RJZMSsH7-g>.

The most important feature of Slack are “[channels](#).” For our purposes, channels will mostly correspond with each project in the lab. When creating new channel(s) for your project, it is important to make sure it labeled *private*. Individuals not a part of the lab will also be on the Slack, so it is important that we keep project files/communication internal. That said, the public channels ([#general](#), [#meetings](#), [#random](#) etc.) are for anyone to announce/share information to those interested in our research.

It’s recommended that you **download the Slack application both on you computer and phone**, as that is the best way to stay up to date/receive notifications of new lab discourse. You can adjust notification settings for each channel you are a part of (you may consider receiving “all new messages” for important channels, and choosing the “just mentions” option for less frequented channels.)

### Zoom

Zoom is a cloud video conferencing application. With your SUNet credentials, you are able to access a free Zoom Pro account. Register for your account at [uit.stanford.edu/service/zoom](http://uit.stanford.edu/service/zoom), and download the application at [stanford.zoom.us/](http://stanford.zoom.us/).

When scheduling a Zoom meeting, you are able to use Google Calendar and/or Microsoft Outlook to invite meeting attendees. On the calendar invite, there will be a Zoom link that allows participants to join the meeting. In addition, Zoom has already been integrated into our Slack, so you may join Zoom meetings from Slack itself.

# **Data Collection and Analysis**

## **Applications and Certifications**

It is critical that we collect and analyze data in a way that is consistent with human subjects requirements, and is replicable and transparent. Hence, before you collect any data with human subjects, you must get IRB approval. Work with your advisor to develop an **IRB application** (<https://eprotocol.stanford.edu/>), which will require that you have information with respect to who will be conducting the research, who the participants will be, what recruitment and instrument materials you will be using, identifying and articulating the risks and benefits to the participants, and study logistics (e.g., compensation, location, etc.). You will also need to obtain your **CITI certification** ([www.citiprogram.org](http://www.citiprogram.org)) if you haven't yet done so. Allow yourself at least a couple of hours to complete the training modules.

## **Data “Hygiene”**

You are encouraged to practice “good hygiene” with respect to your data analysis. This is essential for developing a clear pre-registration plan, collaborating with coauthors, and re-running analysis for revisions of manuscripts (sometimes months if not more than one year after you've submitted the original manuscript).

I really like Gross's (2016) rules for clear coding:

**Rule 1** – Use Sensible Names

**Rule 2** – Comment Everything

**Rule 3** – Make Code Readable

**Rule 4** – Create Sections

Here are two other rules that would also be good to add:

**Rule 5** – Archive Everything

*It is essential that you do not delete code that you have used in previous analysis. I would simply date the code, and push it to the end of the file.*

**Rule 6** – Data Transformation and Variable Creation Section

*Have a dedicated section just for this purpose. This is especially critical if you are collaborating with others on a large dataset. You absolutely want to make sure that you are using the same data transformations and variables in your analysis.*

## **Resources for Best Practices**

Here are some places you might want to take a look at early on in the process of designing your study.

**Coding with R:** <https://owi.usgs.gov/blog/intro-best-practices/>

**Coding with STATA:** <http://sites.bu.edu/talgross/files/2017/08/good-stata-habits.pdf>

In general, the same rules apply for qualitative data analysis. However, here it is critical that it is understood this will be a collaborative and iterative process. Hence, coordination between coders is essential for ensuring that data are being processed appropriately and sensibly.

**Coding with NVivo:**

<http://www.qsrinternational.com/nvivo/nvivo-community/the-nvivo-blog/perfecting-the-art-of-qualitative-coding>

If you have any suggestions for any other good practices or guides, share with Dr. Wong-Parodi and we can add them to our list.

## **Preregistration and Data Repositories**

It is generally good practice to preregister data plans and to share data once obtained (things get a little more tricky with interview data).

According to [The Center for Open Science](#), “when you preregister your research, you're simply specifying to your plan in advance, before you gather data. Preregistration separates hypothesis-generating (exploratory) from hypothesis-testing (confirmatory) research. Both are important. But the same data cannot be used to generate and test a hypothesis, which can happen unintentionally and reduce the credibility of your results. Addressing this problem through planning improves the quality and transparency of your research, helping others who may wish to build on it.”

You can preregister at the following times:

- Before you collect data
- During peer review, if asked to collect more data
- Before you analyze an existing data set

There are several good repositories for this. Here are two good places: <https://osf.io/> & <https://www.icpsr.umich.edu/icpsrweb/>

## **Campus Resources**

### **Academic Accommodations**

Academic accommodations are legally-mandated modifications, adjustments, auxiliary aids, and/or services that give a student with a disability an equal opportunity to benefit from the educational process.

These accommodations may include:

- Changes to a classroom environment or task that permit a student with a disability to participate in the educational process
- Modifications to policies, practices, or procedures (e.g., reduced courseload, extended time to degree, etc.)
- Provision of accessible instructional materials and effective communication services
- Other adaptations or modifications that enable a student to enjoy the benefits and privileges of the university's programs, services, and activities.

Students who may need an academic accommodation based on the impact of a disability must register with the **Office of Accessible Education** (OAE) and initiate their requests. Because accommodations are not retroactive, students should contact the OAE as soon as possible in order to ensure timely notice and coordination. Similarly, it is the student's responsibility to notify the OAE as early as possible in the event of any problems or unexpected barriers experienced in the obtaining of academic accommodations and services. More information for students can be found at <https://oae.stanford.edu/students>.

### **Other Academic Resources**

**Hume Center for Writing and Speaking** helps both undergraduate and graduate students with their writing and presentation needs. They have tutors with many different academic backgrounds to best help you with your needs of your dissertation/presentation/other assignments. There are drop-in hours, or you can sign up for an appointment at <https://sututor.stanford.edu>.

**Spatial Analysis Center** (Y2E2 Room 368) is a shared facility of the School of Earth Sciences that supports research on environmental changes based on remote sensing and geographic information systems.

The eight computers in the lab come equipped with:

- Intel Core i7-6700 Processor
- ArcGIS 10.5.1
- ENVI 5.3
- IDL 8.5
- Google Earth
- eCognition Developer
- R
- Python

- Microsoft Office
- GeoDa
- Quantum GIS

Standing office hours are Tuesday and Thursday from 1pm - 3pm, or make an appointment with SAC lab manager (elyons@stanford.edu) for another time.

**The Office of the Vice Provost for Graduate Education** offers academic guidance, professional development programs, fellowships and funding, as well as many other opportunities to prepare you well during and after your time at Stanford.

Several relevant funding opportunities and fellowships are as follows:

Opportunity	Eligibility	Process	Application Period
<p><b><u>ARCS: Achievement Rewards for College Scientists</u></b> ARCS Scholar Awards recognize outstanding students who have a record of past achievement and who show exceptional promise of making a significant contribution to the scientific and technological strength of the nation.</p>	Doctoral Students	By Nomination	Winter Quarter, varies by school
<p><b><u>DARE: Diversifying Academia. Recruiting Excellence</u></b> The DARE Doctoral Fellowship prepares students from diverse backgrounds to pursue and succeed in academic careers.</p>	Doctoral Students	By Application	Winter Quarter
<p><b><u>DDRO: Diversity Dissertation Research Opportunity</u></b> DDRO funds cover expenses for doctoral dissertation research on diversity-related topics.</p>	Doctoral Students	By Application	Autumn and Spring Quarters
<p><b><u>Gerald J. Lieberman Fellowship</u></b> The Lieberman Fellowship recognizes doctoral students who have demonstrated broad potential for leadership in academia.</p>	Doctoral Students	By Nomination	Winter Quarter, varies by school
<p><b><u>HHMI: Howard Hughes Medical Institute - International Student Research Fellowships</u></b> The HHMI International Student Research Fellowships are designed to facilitate the research training of outstanding international predoctoral students in the biomedical and related sciences, including physical and mathematical sciences.</p>	Doctoral Students	By Nomination	Autumn Quarter, varies by school
<p><b><u>SGF: Stanford Graduate Fellowship in Science &amp; Engineering</u></b> The SGF program supports outstanding incoming and continuing doctoral students in science and engineering.</p>	Incoming Doctoral Students, Doctoral Students	By Nomination	Winter Quarter, varies by school
<p><b><u>SIGF: Stanford Interdisciplinary Graduate Fellowship</u></b> SIGF supports doctoral students whose research crosses traditional disciplinary boundaries.</p>	Doctoral Students	By Application	Winter Quarter

More opportunities may be found at <https://vpge.stanford.edu/fellowships-funding/all>.

## Cultural & Identity Centers

Stanford hosts dedicated spaces for students interested in connecting with different communities on campus. These spaces are as follows;

[Asian American Activities Center](#)  
[Black Community Services Center](#)  
[Diversity and First-Gen Office](#)  
[El Centro Chicano y Latino](#)

[The Markaz](#) (Muslim Community)  
[Native American Cultural Center](#)  
[Q-Spot](#) (LGBTQ+ Community)  
[The Women's Community Center](#)

There are many subsequent student groups that these spaces sponsor/host, as well as many outside of these centers --including athletic, greek, academic, artistic, service and more affiliated groups.

An up to date list of Stanford student groups can be found on [CardinalSync](#). Log in with your Stanford credentials, click "Organizations", and filter results based upon your interests. There are over 700 student organizations registered on CardinalSync!

## Sexual Harassment

The [Office of Sexual Assault and Relationship Abuse](#) (SARA) is a university office specifically for Stanford students dealing with sexual and relationship violence. They offer consultation, advice, information, as well as education and training for campus groups.

[Sexual Harassment Advisers](#) serve as resources to individuals who wish to discuss issues of sexual harassment, whether because they have been harassed or because they want information about the University's policy and procedures.

The Sexual Harassment Advisers for the School of Earth are:

Name	Position	Phone	Email
Amy Balsom	Senior Associate Dean of Finance & Administration	(650) 723-9365	amyb@stanford.edu
Prof. Jef Caers	Professor of Geological Sciences	(651) 723-1774	jcaers@stanford.edu
Sue Crutcher	Associate Dean for Human Resources & Faculty Affairs	(650) 723-5238	crutcher@stanford.edu
Prof. Scott Fendorf	Professor of Earth System Science	(650) 723-5238	fendorf@stanford.edu
Lauren M. Nelson	Director of Administration & Finance, Geological Sciences	(650) 723-3715	lmmnelson@stanford.edu
Ann Marie Pettigrew	Assistant Director, E-IPER	(650) 723-6117	ampetti@stanford.edu



The **Sexual Harassment Policy Office** provides advice and consultation to individuals when requested; receives complaints and coordinates the university's handling of sexual harassment incidents. The office also has a detailed list of other campus resources at avail in case of an incident of sexual harassment. That list may be found at <https://harass.stanford.edu/help/resources>.

While the resources listed above will keep each incident as private as possible, in the case that one needs legally-bounded confidentiality in their situation, those Stanford resources can be found at <https://harass.stanford.edu/help/resources-are-confidential>.

## **Mental Health**

Stanford resources for students to receive support for their mental health are as follows:

**Counseling and Psychological Services** (CAPS) is available to help students who experience a wide variety of personal, academic and relationship concerns. These professionally trained staff hold their services at [Vaden Health Center](#).

Phone: (650) 723-3785 (24 hours a day)

**The Bridge Peer Counseling Center** (The Bridge) provides free confidential counseling to the Stanford community by phone and on a drop-in basis. Peer counselors are found at the [Rogers House](#) on campus.

Phone: (650) 723-3392 (24 hours a day)

These resources are also equipped to offer support and services in the case of sexual harassment.

## Advising Expectations

**\*\*This section has been adapted from “Noah Diffenbaugh’s answers to Stanford VPGE ‘Guiding Questions’ on Graduate Advising – 2019” \*\***

The following are answers to the guiding questions provided by Vice Provost of Graduate Education (VPGE). The VPGE questions are written with respect to graduate student advising, but many of the questions (and answers) are equally relevant for postdoc advising as well.

In addition, please see the following links for additional information:

[Stanford policy on graduate advising](#)  
[ESS graduate program in the Stanford Bulletin](#)

[VPGE student gateway](#)  
[VPGE professional development resources](#)  
[VPGE events and programs](#)  
[VPGE advising and mentoring resources](#)

From Stanford VPGE:

“These questions may be useful to guide advising discussions within departments, programs, and Schools, and perhaps serve as a template for the creation of advising expectations.”

### **What is the overall purpose of faculty advising in this program?**

The advisor is an academic and professional advisor. They are not a boss or supervisor, and the graduate students/postdocs do not work for the advisor. The advisor is committed to providing advice and mentorship about research, the academic plan of study, and professional development. The advisor is committed to leading the effort to ensure that funding is secured for graduate students, in conjunction with the graduate students, and is ultimately the person responsible for ensuring that the Department’s or Program’s funding commitment to each graduate student in the group is met. The advisor is also committed to helping graduate students to navigate campus resources, and to prepare for and pursue career opportunities.

### **What is the process by which students can change advisors and when should this happen?**

For those in ESS: As indicated in the admissions letter, admission into the ESS graduate program is linked with an advisor, who is responsible for ensuring that the Department’s funding commitments to the graduate student are met. (This is common for geoscience programs in the US, but is in contrast to the recent recommendations of the NAS.) As a result, changing advisors has been relatively uncommon during the program’s first decade. However, graduate students who are interested in changing advisors should contact the Director of Graduate Studies and/or the Department Chair.

For those in E-IPER: Admission into the E-IPER program is initially linked to two advisors. E-IPER students are funded through the program. Hence, changing advisors, especially after the first year, is possible. A graduate student who is interested in changing advisors should have a conversation with each of their current advisors, as well as with E-IPER staff, to ensure a smooth as possible transition.

**How frequently should students meet with their advisor and how are those meetings set up? How will you meet (in person, phone, Skype), and how will meetings be scheduled?**

All students should feel that a weekly meeting with the advisor at a regularly scheduled time is available to them. In this group, the advisor checks-in in person each week in person (or by phone or Zoom due to travel or illness), and students request meetings when needed or desired (with the advisor responding within the following few days).

**How does meeting frequency change as the student progresses?**

Historically, most students have begun with a weekly meeting at a regularly scheduled time, and have subsequently requested/suggested to transition to a more flexible meeting schedule.

**What topics might be discussed at advising or committee meetings? Are there any forms to complete or “deliverables” associated with any of those meetings?**

Throughout the year, the advisor and the student discuss research progress, research ideas, upcoming academic and publication deadlines, and student questions (see subsequent question about non-academic advising topics). These meetings will often end with an agreement about what action the student should take prior to the next meeting, and then the advisor and student will subsequently discuss the results that are generated. Meetings are often most productive if the student prepares a meeting agenda, which includes a brief recap of what was discussed the previous week, a list of topics for discussion, and any results or data that the student would like to share.

Near the quarterly course enrollment deadline, the advisor and the student discuss student plans for course enrollment. At the end of the academic year, the advisor and student discuss the Annual Review (required by the Department and E-IPER), as well as plans for the summer. At committee meetings, the student and the committee discuss research progress, research plans, coursework, and professional/career goals. The ESS Department requires that the committee sign a form, and the advisor is responsible for communicating feedback from the committee to the student (including in writing, with the form signed by the advisor and the student, in addition to the committee).

**How is degree progress monitored, for example through a departmental or program annual review process or regular meetings with advisor or thesis committees?**

Degree progress is monitored by the advisor-student discussions, and by the annual thesis committee meetings (see previous question for further details).

### **How and when does a student select and convene their dissertation reading or “thesis” committee, what is the purpose of the committee, and how often should it meet?**

The thesis committee should be convened prior to the Winter Quarter of the PhD student’s second year. The student is expected to consult closely with the advisor about the composition of the committee. The student is encouraged to keep in mind that the advisor has considerable experience with the committee process, and with the individual faculty in the Department or who are affiliated with E-IPER.

The thesis committee conducts the Qualifying Exam; meets annually with the student to discuss research progress, research plans, coursework, and professional/career goals; and conducts the Oral Exam (i.e., “dissertation defense”) and the evaluation of the written dissertation. Members of the thesis committee may in some cases also be research collaborators, and may also serve as mentors and/or letter writers for applications.

### **How does the department or program, advisor, and student decide when a student is ready to graduate?**

The PhD degree signifies the capability to independently initiate, conduct, document, and defend original scholarship. PhD graduation is thus determined primarily by maturity of research, along with preparation for professional goals. Funding constraints and availability of employment can also be important factors shaping the discussion about graduation. Dissertations vary, but in ESS and E-IPER, dissertations are typically 3-4 chapters of original research that are each at some point in the journal publication process, along with overarching Introduction and Conclusions chapters. Given that the PhD signifies capability to independently conduct independent research, it is expected that students have completed the full paper publication process prior to graduation. (All students from this research group have had at least one chapter in print and at least one more submitted at the time of the dissertation defense, and more than half have had at least three chapters in print.) The final decision about when a student is ready to graduate is determined by the dissertation committee.

### **Who else might a student consult for help or guidance, e.g., department chair, DGS, student services staff?**

It is critical that students have multiple mentors, intellectual influences and professional communities. Students are thus enthusiastically encouraged to form additional mentoring relationships independent of the advisor. These can include (but are not limited to) members of the thesis committee, other faculty in the Department or the School (or on campus), collaborators at other institutions, postdocs within and outside of the research group, and members of the broader scientific community (for example through networks such as ESWN). Students are also encouraged to consult institutional resources such as the Department Chair, the DGS, and the Department and School student services staff, as well as campus resources such as VPGE, the Office of Graduate Life, CAPS, and the campus Ombudsperson.

### **What are students expected to participate in: lab or research group meetings, department symposia, etc.?**

Graduate students are independent adults who are responsible for allocating their own time. And, as part of their graduate education, students are expected to attend the weekly ESS Department seminar (ESS graduate students) and research group meetings. There are other institutional symposia, etc, that are also beneficial, both intellectually and for participating in the scholarly community at Stanford (e.g., Woods Conversations and seminars, Hard Earth seminars, etc.). All of these are important learning opportunities that provide critical supplements to the relatively light course load in the ESS and E-IPER graduate curriculum.

### **What are the expectations about time off, vacation, holidays, etc.- are students expected to request time away and if so, how far in advance?**

Graduate students are independent adults who are responsible for allocating their own time. Students are expected to commit the time and effort that is necessary to make progress on their research, including the research progress required by the source of their funding. Within that expectation, students should feel empowered to find the schedule and routine that provides the balance of degree progress and personal life that best works for them. This includes holidays and vacation. It is polite to inform the advisor of planned absences. Further, coordination of availability becomes important once the student reaches the stage of having manuscripts under review at journals, because journal deadlines can appear “out of the blue.” But, ultimately, each student should decide their own vacation schedule (while respecting their own degree progress and funding commitments).

### **Are students expected to consult with the advisor about the courses they take?**

Yes. Given the heterogeneity of backgrounds prior to beginning the graduate program and the heterogeneity of professional goals, the courses that will best support each students’ graduate education will vary. In addition, there is a lot of institutional memory about individual courses and instructors that will be valuable for students to consider. Further, thesis committees will often recommend or require particular courses, and the advisor is entrusted with representing the committee in ensuring that those course recommendations/requirements are met. Although the courses that any student chooses are ultimately up to the that student to decide, consultation with the advisor is an important part of the course selection process.

### **How do students and advisors write together? How polished should drafts be before the advisor sees them? How much time should the advisor be provided to review drafts and how should students request input?**

Students are encouraged to send multiple drafts to the advisor throughout the writing process, beginning at the very early stages and continuing through submission to the journal. The advisor will typically provide “high level” structural feedback on early drafts (i.e., at the level of sections and paragraphs, but not individual sentences), and will provide detailed comments after that structural feedback is incorporated. Students should be aware that providing detailed feedback is very time intensive (at least 15 minutes per manuscript page, or at least 8 hours for a full-length manuscript). Students should thus devote attention to refining the prose with each

iteration. Students should wait to send drafts to co-authors until there is mutual agreement with the advisor.

**How long in advance should your student make a request for a letter of recommendation (or similar) and what information is needed in advance?**

For the first letter request at a given career stage (e.g., graduate fellowship, postdoctoral fellowship, faculty position), it would be ideal to have 4 weeks notice (but definitely ask if something arises on a shorter timeline). For subsequent requests at a respective career stage, one week notice is sufficient (although more is appreciated).

**What fellowships or research funds are students expected to apply for and how will the advisor support their efforts?**

The advisor is responsible for ensuring that the Department's or Program's commitment of providing funding via a combination of fellowship, research assistantship and teaching assistantship is met. Because the average time to PhD (5.5 years) is longer than the average grant (3 years), the exact mix of funding sources for any student is not certain at the time that the student is admitted to the graduate program. This means that the advisor will be working to secure funding for the student during the student's PhD. The student should expect to be asked to participate in that process, through graduate fellowship applications and/or grant preparation. (In some cases, the student may also need to TA more than the minimum Department requirement, per the offer of funding via a combination of fellowship, research assistantship and teaching assistantship.)

The fellowship application process also provides a number of academic and professional development benefits to the student. As a result, fellowship applications are likely to prove beneficial even if not required by funding constraints.

**What additional funding might the advisor be able to support (conference travel funds, research funds, etc.)?**

Graduate students should expect the advisor to be able to fund one conference per year, with the possibility of additional funds depending on the circumstances (with additional funds prioritized later in the PhD when preparing to apply for post-PhD employment). Students should apply for travel funds when available.

**Are students expected to present their work, e.g. in the research group meetings or department, on campus, at conferences, etc.?**

Yes. Presentation is a critical part of the scientific process, and plays an important role in professional development. Students should expect to present their work in research group meetings and at the annual School "Graduate Research Review" symposium. In addition, it will also be important to present at international society meetings such as the annual AGU Fall Meeting or Society for Risk Analysis, as well as at more specialized conferences and workshops (the specifics of which vary by research area).

**Are students expected to publish their work and if so, will the advisor and/or others co-author with them?**

Yes. Students are expected to submit their dissertation chapters for publication in peer-reviewed journals as each chapter is completed. (Dissertations vary, but ESS and E-IPER dissertations typically consist of overarching Introduction and Conclusions chapters, along with 3-4 chapters of original research that are each at some point in the journal publication process.) As is typical in the social sciences, the default expectation is that the advisor acts as a highly engaged collaborator on each of the dissertation chapters, and is a co-author on the journal publications. It is expected that the advisor will be the corresponding author on manuscripts. Others who collaborate on a study will also be co-authors, per the authorship practices/guidelines of the social sciences. These co-authors may be from within and/or outside the research group. When engaging these co-authors, it is critical to seek research feedback and discuss co-authorship early in the collaborative process (see next question about co-authorship).

**How and when is co-authorship discussed?**

The co-authorship discussion is active and on-going, and requires attentiveness and flexibility. Co-authorship is best discussed early rather than late. Ideally, this includes before analysis begins, and if not then certainly before writing begins. And, it is important to be aware that additional contributions may be necessary in order to thoroughly and convincingly answer the scientific questions that are asked, meaning that in some cases it may be necessary to seek out collaborators later in the process (including, in some instances, at the journal revision stage).

However, whenever possible, students and advisors should seek to communicate early and often about co-authorship - when in doubt, discuss.

***See section on authorship contract and authorship determination for more details.***

**On what topics beyond their courses and dissertation might students seek advice from the advisor: i.e., teaching opportunities, career guidance, work-life balance?**

Students are welcome to seek advice on any topic that they find appropriate. All previous graduate students in this research group have sought advice on teaching opportunities and career guidance, and many have sought advice on work-life balance, as well as how to best find support for dealing with personal issues (e.g., Counseling and Psychological Services (“CAPS”), visa issues, etc.).