

**SCRAP Lab Policy**

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Introduction

This document describes the general policies of the Social Computation Representation And Prediction Laboratory (SCRAP Lab) at Dartmouth College. This document serves three purposes: 1) it gives prospective lab members insight into what the lab environment would be like if they joined, 2) it helps familiarize new members of the lab with best practices and resources, and 3) it serves as a reference for existing members of the lab. This document does not contain detailed technical information on the workings of the lab. That information should instead be found in/added to the lab wiki.

This lab manual was inspired by several others, and borrows heavily from them (in particular, [this one](https://github.com/alylab/labmanual)). It is an evolving document, so if you have ideas about things to add of clarify, talk to me (Mark Thornton, the PI) about it. When you join the lab, you’re expected to read this manual and commit to abiding by it. However, this document is a statement of general policy, not an inflexible binding contract. Exceptions to and alterations of lab policies will be made at the discretion of the PI when he judges it to be in the best interests of lab members or other affected parties.

This document is licensed under a [Creative Commons Attribution – Non Commercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/). If you’re a PI or a trainee in a different lab and want to write your own lab manual, feel free to take inspiration from this one.

Statement of Purpose

SCRAP Lab investigates the ways in which people think about other people. We study how people perceive the social world, how social knowledge is organized in the mind and brain, and how that knowledge is deployed in the service of successful social interactions, such as in making accurate predictions about others’ thoughts, feelings, and actions. We draw on a wide array of methods to investigate these topics, conducting behavioral, neural, text analytic, and computational studies. Our long-term goals include providing precise quantifications and models of social cognition and laying the groundwork for applications such as social artificial intelligence and social prosthetics.

Lab Philosophy

Embrace mistakes

It can feel embarrassing to make a mistake in a competence-oriented role like research, but the reality is that we all make them, and they are nothing to be ashamed about. When you make a mistake, don’t be afraid to admit it. Instead, correct it, learn from it, and alert others who might have been affected, or who might encounter a similar problem in the future. This applies doubly to situations where the mistake might have important consequences.

Be careful

Accepting the inevitability of making some mistakes should not license you to be careless. Plan your work in such a way as to leave plenty of time to check it for errors. An ounce of planning is worth a pound of work. Do not trust a piece of code just because it is “running” – include checks that it is really performing as you expect. When you’ve written some code or prose, step away from it a while and then come back to it with fresh eyes to look for ways to improve it. Ask other folks to take a look at your work and offer to review theirs too.

Be honest

As scientists, we have a special duty to the truth. Nothing we do is meaningful unless we do it honestly. The lab, and Dartmouth College, are committed to ensuring research integrity, and we take a hard line on research misconduct. We will not tolerate fabrication, falsification, or plagiarism. Read Dartmouth’s policies on the conduct of research carefully (see [here](https://www.dartmouth.edu/~osp/resources/policies/dartmouth/MisconductPolicy.html)).

If you are feeling pressured to succeed (publish a lot, publish in high impact journals), you should reach out to Mark and we can talk about it. However, this pressure is something we all face and is *never* an excuse to fabricate, falsify, or plagiarize. Not only is research misconduct doing you a disservice, it’s also a disservice to the field and the public. It risks your entire career and those of your collaborators and lab mates. It is never right and never worth it. Don’t do it.

Be kind

Respect your lab-mates and others in our community. Help them if you can. Realize that those around you are not your competition, but rather your companions on a challenging journey, and your potential scientific collaborators. Delivering feedback is a crucial part of the scientific process, but it can be unpleasant to be on the receiving end of negative feedback, so try to be gentle in how you deliver it. Similarly, debate can be a useful intellectual tool, but do it carefully, generously, and only with people who want to participate. Respect people’s identities and backgrounds and try to take these factors into account before saying or doing things which might be hurtful or exclusionary. If there is hostility or tension in the lab, address it promptly. This could include confronting the issue directly, talking to Mark about it, or reporting it to other members of the department or college administration.

The lab, and the college, is an environment that must be free of harassment and discrimination. All lab members are expected to abide by the Dartmouth College policies on discrimination and harassment, which you can (and must) read about [here](https://www.dartmouth.edu/~ide/policies/). The lab is committed to ensuring a safe, friendly, and accepting environment for everybody. We will not tolerate any verbal or physical harassment or discrimination on the basis of sex, race, gender identity and expression, sexual orientation, disability, physical appearance, body size, or religion. We will not tolerate intimidation, stalking, following, unwanted photography or video recording, sustained disruption of talks or other events, inappropriate physical contact, or unwelcome sexual attention. It should go without saying that lewd, objectifying, or otherwise derogatory language and behavior have no place in the lab, including any lab outings. Beyond these individual-level issues, please also work to be conscious of how any activities of the lab as an organization – including our research – could contribute to racism, sexism, or other forms of systemic oppression in our society. Ideas to mitigate such negative social impacts, or to better foster diversity and inclusivity in our community, will be heard and acted upon with alacrity.

Dartmouth has many resources available for reporting harassment or seeking help. If you are harassed or see someone else being harassed, please check the guide reference [here](https://sexual-respect.dartmouth.edu/reporting-support/title-ix-resources) to determine which resource you might wish to consult. Note that some of these resources are confidential, whereas others are merely private. Confidential resources are protected by law and will not share information without your express consent unless there is imminent danger to yourself or others or a legal injunction. Private resources include mandatory reporters – like Mark and all other Dartmouth faculty and staff – who are legally obligated to promptly and completely disclose any harassment to the Title IX coordinator. Reporting harassment, whether experienced or witnessed, is crucial to stopping it. However, reporting may also feel like a daunting thing to do. Please know that you will always have Mark’s full support should such issues arise.

Be help(ed)

If you’re struggling with personal or professional issues, seek help. If you notice someone struggling, seek to help them. Talk to other people in the lab (including Mark!) about your difficulties, setbacks, and frustrations. Telling others about your problems can make you feel better, and helps others realize that everyone struggles from time to time. Don’t be afraid to take time off if you need it, or to seek professional help with medical or mental health issues. Your health and happiness are far more important than running a subject or redrafting a paper. If you’re worried that an issue you’re dealing with is affecting your work, talk to Mark about it to makes plans to manage it. If you’d like to talk with someone outside of the lab, you can find a list of Dartmouth and community wellness resources [here](https://students.dartmouth.edu/health-service/counseling/outreach/dartmouth-cares-suicide-prevention/wellness-resources).

General Policies

Illness

Do not come to the office if you are feeling at all sick. Stay home, drink some tea, and get better. This isn’t just good for you, it’s good for all of us because it prevents contagious illnesses from spreading. If you’re sick, let someone in the lab know (probably the PI and/or lab manager) and reschedule meetings and other obligations once you feel better.

Hours

Work at the times you want to. Don’t feel obliged to be at the lab on the weekend or at night (if you’re a night-owl, feel free to work at night). Do not feel pressured to work long hours. Don’t try to “compete” with other lab members in terms of how long you spend in the lab. Your schedule is your own, and you should set boundaries you feel comfortable with.

As an example, you may receive emails from other people in the lab (including the PI) at times when you do not usually work (e.g., late at night). Unless there is an emergency, do not feel obliged to read or respond to those emails immediately. Conversely, do not expect others in the lab to respond immediately to your emails, especially if they are outside of common work hours.

Especially with the type of work that we do, working efficiently for a short time is much better than spending endless hours in front of your computer screen. There may occasionally be “crunch” times when you find it necessary to work longer than average hours, such as before a hard deadline, but these should be compensated by rest afterward. Lab expectations are formulated in terms of research goals, not hours in the office. If you find yourself struggling to keep up with research goals while working a reasonable number of hours, let the PI know!

One exception to the flexible work hours policy is the lab manager, who is generally expected to work more regular hours (and be present in the lab) so that they can serve as the hub for lab administration and handle business matters that typically take place during standard working hours. Working 9-5 or 10-6 is probably best.

Although work should generally be done on your own schedule, there are also mandatory events that all senior lab members are expected to attend. These include classes (taken and taught), lab meetings, weekly PI meetings, and departmental talks (colloquia and area seminars). There are valid reasons to miss these events occasionally (e.g., illness) but these do not include your regular work. Attending these events regularly is important for building and maintaining a sense of community within the lab and department. The expectation is that these events should be attended in-person, rather than remotely, if at all possible. Always show up promptly to mandatory events!

While not mandatory, it is highly recommended to socialize with others in the lab and department. Although it may not seem like it at the time, chatting about science with your colleagues can often times be one of the most intellectually productive things you can do with your time in lab. For this reason, even if you do a lot of work outside of the lab, it is recommended that you spend some time at the lab most days during “peak hours.” The lab and department also plan a number of social events each year. If you find yourself reluctant to attend such events, try to identify the reason, and if it’s something that could be changed, bring it to the PI’s attention.

Vacations

On a longer timescale, take vacations! Visit a new place, see your family and/or friends, get out into nature, or just veg out on the couch. Spending some time away from the lab is good for your mental health. It’s also crucial for maintaining motivation and perspective. However, if you’re going to be away, please let the PI and lab manager know as early as possible beforehand (ideally at least a month in advance, if you’ll be gone for more than a couple of days).

Lab maintenance and safety

Respect and protect our space. Treat our office space, furniture, and equipment with care. Keep things tidy in the lab, especially in areas that participants or other outsiders are likely to visit. Eating is fine, but food waste and associated detritus should be disposed of promptly (do you want ants?). Also treat our virtual spaces with respect, and keep them running smoothly. The lab manager has particular responsibilities for maintaining lab infrastructure, but that does not mean it is their job to clean up after other lab members, literally or figuratively.

Also try to keep the lab free from noise pollution. Use headphones if you want to listen to music or need to listen to other audio for your work. Try to take meetings or have conversations away from places where your lab mates are working so that you do not distract them.

In terms of security, make sure the outer door is locked and the lights are out if you’re the last one leaving the lab. In addition to valuables, the lab may contain human subjects’ information that we have a special duty to safeguard. Follow all Dartmouth regulations and lab protocols for information security. Be cautious of potential phishing emails, spoofed websites, and other common forms of social engineer that could compromise our electronic infrastructure. Mark – or the department chair – will never email you asking for gift cards, or whatever the latest scam is. Keep the numbers for emergency and crisis services in your phone so that you can contact them promptly if you or others need help. Scrupulously observe all rules and regulations regarding MRI safety when you are scanning. If you are interested in taking classes or engaging in other activities related to health and safety (e.g., first aid), let the PI know and the lab may pay for it.

Dress code

In general, the lab does not set particular expectations about daily dress. However, if you are interacting with participants, teaching, or presenting your research, then you should plan to dress relatively sharply (e.g., no stained or torn garments). This is particularly important in the context of fMRI scanning: dressing professionally helps reassure participants that you know what you’re doing, in what can be a scary environment for them. Also, as per our “be kind” policy above, please do not wear clothing with offensive messages or images.

Open science practices

The lab is committed to doing science in a transparent, reproducible way. Several practices detailed below help us to achieve this goal:

Preregistration is a helpful tool to avoid fooling ourselves with analytic flexibility. Most studies in the lab should be preregistered prior to data collection. Typically, we will do this using the Open Science Framework (OSF). Exceptions include small pilot studies or studies we do for internal purposes only (i.e., with no intention to publish the results). Reanalysis of existing data also may not be preregistered. All preregistered studies should include a thorough description of the study methods themselves. Confirmatory studies should include a description of hypotheses, but this is not necessary for exploratory studies. A power analysis will generally be necessary for any confirmatory study. Some sample size justification should be provided for any study. Any planned analyses – exploratory or confirmatory – should be described in detail. Ideally, data analysis scripts are already prepared and tested on pilot/simulated data prior to preregistration. In such cases, these scripts should be included. The preregistration should be as detailed as possible, but also anticipate contingencies in the experimental/analytic process (e.g., “we will test assumption X, and if it is met we will do Y, but if it is not we will do Z”).

Sharing data and code are important to maintaining the integrity of science, and also facilitate research. As a general rule the lab will share all (properly anonymized) data and code relevant to its studies. Exceptions to data sharing will be made as necessary in certain cases when it is essential to protect participants’ privacy or for other legal reasons (e.g., copyright issues). FMRI data in BIDS format should be uploaded to OpenNeuro (making sure to first de-face high resolution scans). Other data should be shared on OSF or github (small data files only). If OSF does not provide sufficient storage space for a dataset, contact Mark to find an alternative solution. A data dictionary should be included to describe each shared file.

All code should be shared through GitHub or OSF. Sharing short analysis scripts on OSF is okay, but in general GitHub should be preferred for sharing larger code bases, such as a pipeline. If you have multiple interacting scripts, or multiple interacting coders, git(hub) should be strongly preferred. Using git for version control throughout the process of coding up experiments and analyses is highly encouraged. Code should be sufficiently commented to allow someone else in the lab to understand it. Keep notes about software installation or anything else related to how to run you code that is not contained in the comments and include this information in a readme document. Any code uploaded to GitHub will undergo internal code review (i.e., by someone else in the lab). Code review is useful for catching bugs and other errors and is also an incredibly valuable opportunity to learn from each other’s coding skills.

Making our research freely accessible to the general public is crucial to our role as public research. All lab papers will be uploaded to a preprint server (e.g., PsyArXiv) prior to submission for peer review. These preprints should be updated every time a paper is revised and resubmitted up to acceptance.

Authorship

Like many other labs, we will follow the APA guidelines with respect to authorship:

*"Authorship credit should reflect the individual's contribution to the study. An author is considered anyone involved with initial research design, data collection and analysis, manuscript drafting, and final approval. However, the following do not necessarily qualify for authorship: providing funding or resources, mentorship, or contributing research but not helping with the publication itself. The primary author assumes responsibility for the publication, making sure that the data are accurate, that all deserving authors have been credited, that all authors have given their approval to the final draft; and handles responses to inquiries after the manuscript is published."*

At the start of a new project, the trainee taking the lead role can expect to be first author (talk to Mark about it if you aren’t sure). Mark will typically be the last author, unless the project is primarily under the guidance of another PI and Mark is involved as a secondary PI – then Mark will typically be second to last and the main PI will be last. Students and post-docs who help over the course of the project may be added to the author list depending on their contribution, and their placement will be discussed with all parties involved in the paper. If a trainee takes on a project but subsequently hands it off to another trainee, they will most likely lose first-authorship to that trainee, unless co-first-authorship is appropriate. All of these issues will be discussed openly, and you should feel free to bring them up if you are not sure of your authorship status or want to modify it.

Old projects

If a trainee collects a dataset but does not completely analyze it or write it up within 3 years after the end of data collection, Mark will re-assign the project (if appropriate) to another person to expedite publication. If a trainee voluntarily relinquishes their rights to the project prior to the 3-year window, Mark will also re-assign the project to another individual. This policy is here to prevent data (especially expensive data, e.g., fMRI) from being wasted, but is meant to give priority to the person who collected the data initially.

Human Subjects Research

Adherence to approved IRB protocols is *essential*, and non-adherence can lead to severe consequences for the entire lab (i.e., we may lose permission to run any research on human participants). All lab members must read and comply with the IRB consent form and research summary for any project that they are working on. If you are not on the IRB, you cannot run participants, analyze identifiable data, or be involved with the project in any other way that could have consequences for human subjects.

Lab members must complete [CITI Training](https://www.citiprogram.org/) and save their certificate. To be added to an existing IRB, talk to the lab manager and present them with your CITI certificate. If your project does not fall under the scope of a current IRB protocol, talk to Mark and the lab manager about writing a new one or filing an amendment to an existing one. You *must* ensure that you have IRB approval to run your study before you begin (which means that you either submitted an IRB protocol that got approved, or your name was added to an existing or amended IRB).

If a participant falls ill, becomes upset, has an accident with lab equipment, or experiences any problems while you are conducting your research, you must notify Mark and the lab manager as soon as possible. We may need to report this information to the IRB and/or funding agencies.

Lab meetings

Weekly lab meetings (~1.5 hours each) are meant to be a forum for trainees to present project ideas and/or data to get feedback from the rest of the group. Projects at any level of completion (or even not yet started!) can benefit from being presented. We will also use lab meetings (or ad-hoc scheduled meetings) to prepare for conference presentations and give people feedback on job talks or other external presentations. Each senior lab member (lab manager, graduate student, or postdoc) should expect to present during at least one lab meeting per quarter. Undergraduate lab members will briefly present about their work in the lab in what is typically the final lab meeting of each quarter. There will also be separate undergraduate RA meetings each week. These will be organized by the lab member, though other members of the lab will lead them periodically.

Individual meetings

At the beginning of each quarter, we will set a schedule for weekly meetings. Each senior lab member will have a guaranteed hour slot set aside to meet with Mark. If scheduling conflicts arise (e.g., because of travel), we can try to reschedule for another day that week. These meetings are an opportunity to update Mark about the progress of projects and discuss future steps, brainstorm new projects, discuss research obstacles, or seek professional advice. If there is little to discuss in a given week, feel free to keep the meeting short.

Mark will meet with each undergraduate in the lab at least twice a quarter (towards the beginning and end). Each senior lab member should meet with their undergraduate RAs on at least a weekly basis.

Deadlines

In academic work it helps to be as organized as possible. This is essential because disorganization doesn’t just hurt you, it hurts your collaborators and people whose help you need. When it comes to deadlines, tell your collaborators as soon as you know when a deadline is, and make sure they are aware of it the closer it gets. Don’t be afraid to bug them about it (yes, bug Mark as well).

Give Mark at least one week’s notice to do something with a hard deadline that doesn’t require a lot of time (e.g., reading/commenting on conference abstracts, filling out paperwork, etc). Give Mark *at least* two weeks’ notice (preferably more) to do something with a hard deadline that requires a moderate to high amount of time (e.g., a letter of recommendation).

If you want feedback on research and teaching statements, or other work that requires multiple back-and-forth interactions between you and Mark before a hard deadline, give him as much time as you can; at the very least three weeks.

For manuscript submissions and revisions (i.e., which either have no deadline at all or only a weak deadline), send them to Mark as soon as you have them, and bug him to give you feedback if he hasn’t responded in two weeks – your papers are important!

Presentations

Learning to present your research is important. Few people will read your papers carefully (sad, but true) but you can reach a lot of people at conference talks and posters. Also, if you plan on staying in academia, getting a post-doc position and getting a faculty position both significantly depend on your ability to present your data. Even if you want to leave academia, presentations are likely to be an important part of your job. Additionally, every time you present your work, you are representing not just yourself but the entire lab.It is therefore highly encouraged that you seek out opportunities to present your research, whether it is at departmental talk series and events, to other labs (within or outside of Dartmouth), at conferences, or to the general public.

Public speaking can often be an intensely anxiety-provoking activity. Therefore, if you are going to give a presentation (a poster or a talk), be prepared to give a practice presentation to the lab at least one week ahead of time (two weeks or more are advisable for conference presentations, and *many* weeks ahead of time are advisable for job talks, which require much refining). Practice talks will help you feel comfortable with your presentation, and get feedback in a safe, collegial space before you have to face a wider audience. Practicing early will allow you enough time to implement any changes suggested well in advance of your real presentation.

Templates for posters will be available, and you can use those as much or as little as you’d like. Some general rules for posters should be followed: minimize text as much as possible (and use bullet points rather than paragraphs), make figures and text large and easy to see at a distance, label your axes, and make sure different colors are easily discriminable (including for people with sight impairments such as colorblindness).

Mark is also happy to share slides from some of his talks if you would like to use a similar style. You’ll get a lot of feedback on your talks in any case, but other people’s slides might be helpful to you as you are setting up your talk.

Recommendation Letters

Letters of recommendation are extremely important for getting new positions and grants. You can count on Mark to write you a letter if you have been in the lab at least one year (it’s hard to really know someone if they have only been around for a few months). Exceptions can be made if students or post-docs are applying for fellowships shortly after starting in the lab.

If you need a letter, notify Mark as soon as possible with the deadline, your CV, and any relevant instructions for the content of the letter. If the letter is for a grant, also include your specific aims. If the letter is for a faculty position, also include your research and teaching statements. If the letter is for another type of job, include your cover letter or other application material. Please tell Mark if there is something you think is particularly important to convey.

Senior lab members should expect to assist Mark in writing letter for undergraduate members of the lab. Undergraduate research assistants usually work more closely with their mentor than with the PI, and thus their mentor is in a better position to write them a compelling letter. Typically, the mentor will draft an initial letter, which Mark will edit and amend before submission.

Money

Lab funding comes from Mark’s startup fund and grants he receives. If you need to spend money on something research related, contact Mark and/or the lab manager before making any purchases. If you’re ever contemplating paying for a work-related expense out of your personal funds, please stop and check with them first. The lab will always try to cover work-related expenses, in advance if possible.

The lab will support you in applying for your own funding, something which you should probably invest time in doing if you’re a senior lab member. This will typically take the form of graduate or postdoctoral fellowships, or small research grants. Applying for these is good practice for later in your career, and helps out the lab and department by freeing up the funds otherwise used to support you. You may also occasionally be asked to help Mark put together a grant application for the lab. This will often take the form of reading over the methods of a proposed study or providing a figure or two for inclusion in the application.

Postdocs in particular will generally be expected to apply for external funding if they do not start with it. The lab will not hire postdocs if it cannot support them for at least one year, but ideally many postdocs will be able to find their own funding within 1-2 years.

Travel

Traveling to conferences, workshops, and other scientific events is very important for your development as a scientist. Every senior lab member is guaranteed the opportunity to attend one conference a year (and are expected to do so), regardless of whether they are presenting. The lab will fund additional travel on an ad hoc basis for conferences at which lab members are invited to present. Since travel can accrue high costs (both to the lab and the environment) please take steps to keep those costs down, such as attending more local area conferences, applying for travel grants, and traveling or sharing accommodation with others in the lab or department. If there’s an event you’d really like to travel to, always bring it to Mark’s attention!

Social media

The PI/lab maintain several Twitter accounts including Mark’s personal account, the SCRAP Lab account, and the MySocialBrain account. These accounts will be used, among other things, to promote the research and other accomplishments of members of the lab. If you are uncomfortable being featured in this way for any reason, please let the PI know.

Social media – and Twitter in particular – can be useful to scientists in a number of ways. It provides unprecedented opportunity for outreach by allowing us to interact directly with members of the public. It also helps us build our reputations and promote our research to many scholars who might otherwise have missed it. However, there are also major downsides to social media. It can be distracting, demoralizing, and expose us to harassment. Given these pros and cons, it is up to you to decide whether and how much you want to participate on Twitter or other platforms. If you want to try it out, a relatively safe way to start is by following scientists you already know. This allows Twitter to serve as a useful aggregator of scientific discourse while minimizing many of the downsides of active participation in the broader social discourse.

Role-specific polices and expectations

This section details policies applicable to, and expectations (both of and for) specific roles in the lab. These policies and expectations are in addition to, rather than in place of, the general policies outlined above.

Postdoctoral scholars

Postdoctoral scholars are the most experienced members of the lab, other than the PI. Most of their time will be spent leading independent research projects. The choice of topics for these projects will generally be quite free, though ideally projects should both advance the postdoc’s career as an independent scholar and connect with the lab’s broader research themes. Prospective postdocs should discuss their interests with Mark well in advance of starting in the lab. This will help ensure that projects will be of mutual interest and provide a broader window within which to apply for outside funding. Postdocs supported by a specific grant – their own or one of the lab’s – should expect to focus their efforts on projects related to that grant. Postdocs who do not enter the lab with grant funding should generally expect to spend some time applying for it – or helping with the PI’s applications – after they arrive.

As senior lab members, postdocs will play an important role in mentoring and supporting other members of their lab. This includes both sharing their scientific knowledge with more junior lab members and offering them an addition perspective on navigating an academic career. Postdoc’s expertise will often complement those of the PI, so they may often find themselves as the authority in the lab on a range of topics. Postdocs thus perform an invaluable service to the lab by offering advice and constructive feedback to other lab members in contexts such as lab meetings and RA meetings. That should also include challenging Mark if you think he is wrong about something.

Depending on the nature of their research, postdocs may also work closely with more junior members of the lab such as lab members and undergraduate RAs. Please use these opportunities to mentor these folks and enrich their experience in whatever ways you can. As a senior lab member, you will play a major role in setting the tone of the lab, so it is important that you set a good example for others.

Postdocs can expect extensive support for achieving their career goals. If you intend to apply for tenure-track academic jobs, then this will include help writing and refining your application materials, workshopping your job talk(s), and negotiating your position and startup package. Mark also fully supports lab members who choose industry or other non-academic careers. Although the application processes and desiderata for those positions are more heterogeneous, Mark is happy to review application materials, stage mock interviews, and put you in touch with his contracts in industry.

Graduate students

Graduate students are central to the lab and will typically be its longest-term members other than the PI. As a result of this long trajectory, graduate students will experience a range of different roles in the lab as time passes. Early in grad school, they should focus heavily on learning. This can include formal coursework, but should also involve a lot of independent reading, tinkering, and discussions with peers and lab mates. Skills acquired early in grad school will pay dividends for years to come. By the end of grad school, grad students will be operating as independent research much like postdocs. At this point, their focus should be on conducting, analyzing and writing research projects, and sharing their knowledge with the more junior members of the lab such as more junior graduate students, lab managers, and undergraduate RAs.

When you join the lab as a graduate student, you will typically begin working on two main research projects. One of these research projects you will develop from the ground up, beginning at the conceptualization of the research question and hypothesis, and continuing through experimental design, data collection, analysis, and manuscript writing. The second project will be in a slightly more advanced stage, with the conceptualization and likely some elements of the design already in place. You will choose such a project that matches your interests from a menu of possibilities discussed with the PI. These parallel projects will complement each other by giving you insight into different stages of the research process. They also help avoid getting ‘stuck’ at any points in the research process which can be difficult to navigate for the first time, such as identifying a specific hypothesis within a general research question.

By the end of graduate school, most graduate students should expect to complete around three major research projects of publishable scope and quality on which they are the project lead. This is not a hard-and-fast rule, but rather a useful goal to set early in the program so that you can calibrate your research expectations appropriately. The details will depend greatly on the details of the projects in question. Do not worry too much – especially early on in the process – about how to tie these research projects together into a coherent research program. It is useful to be able to tell a coherent narrative about one’s research program, but these stories are almost always more evident in retrospect than in the planning stages.

Graduate students can expect career guidance and professional development opportunities throughout their time in the lab. This will include extensive mentorship from the PI, advice from other faculty in the department, and informal mentorship from more experienced lab members such as post docs and more senior graduate students. When the time comes to leave the lab, you can expect full support from the PI in whatever career you decide to pursue next. Although Mark is naturally most familiar with the tenure-track academic career trajectory, you are encouraged to seriously consider all of your options for post-PhD life. If you intend to apply for tenure-track academic jobs, then support will include help writing and refining your application materials, workshopping your job talk(s), and negotiating your position and startup package (even if you have already been out of the lab for a number of years postdoc’ing). If you choose to pursue an industry or other non-academic careers, Mark will be happy to review application materials, stage mock interviews, and put you in touch with his contracts in industry.

Lab managers / full-time research assistants

Lab managers perform a wide range of essential work for the lab. These include both administrative and scientific responsibilities. Administrative responsibilities may include updating the lab wiki, maintaining lab software and hardware infrastructure, making purchases and filing expense reports, scheduling lab events, recruiting and managing undergraduate research assistants, drafting IRB protocols, and curating data for NIH or other funding bodies.

In addition to the more administrative side of the job, lab managers will play a very active role in the scientific life of the lab. This will include designing and implementing experiments, collecting data, developing the lab fMRI analysis pipeline, analyzing behavioral, fMRI and text data, training and mentoring undergraduate RAs, writing manuscripts, and presenting research at scientific conferences.

The balance between administrative and scientific duties will likely vary over time, depending on what phase of research lab members are in, and the seasonality of academic life. Ideally lab managers should be spending no more than half of their time – on average – on administrative duties. If you feel these responsibilities are persistently out of balance, please let Mark know so that you can work together to improve the situation. Many of the scientific responsibilities of a lab manager will involve working on projects with graduate students and post docs. However, as they acquire more experience, lab managers will also have the opportunity to develop their own research projects in collaboration with the PI.

Lab manager positions are often a good place to figure out if you want to pursue graduate studies in a particular field. If you do, you can expect extensive support in preparing for graduate school, identifying promising mentors and programs, and writing applications. If you decide that graduate school isn’t for you, you can also expect full support in pursuing whatever next steps you plan to take in your career. The skills you will acquire in a lab manager’s role will provide excellent preparation for careers in fields such as data science and user experience research.

Undergraduate research assistants

Undergraduates research assistants are crucial contributors to our research in SCRAP Lab. RAs can participate in our research in a large number of different roles, depending on their interests, experience, and skill sets. These roles could include helping to collect behavioral or fMRI data in lab-based experiments, designing surveys for online research, programming experimental tasks, creating stimuli, or analyzing data.

In return for their assistance, we do our best to offer RAs an enriching experience. All undergrad RAs can expect to receive technical training in valuable skills such as programming and statistics. Professional development is another important part of the undergrad RA experience, and RAs can expect to receive insight into the “hidden curriculum” involved in pursuing a scientific career. Weekly RA meetings will feature these topics, as well as discuss of recent research of interest to the lab. RAs are expected to attend these meetings regularly unless they have class conflict. RAs are also expected to attend lab meetings, where they will learn about ongoing research in the lab.

Each undergraduate RA will work closely with a specific mentor within the lab, usually a graduate student, post doc, or lab manager. They will meet weekly with their mentor to discuss ongoing research projects. RAs will also meet with the PI (Mark) at least twice each quarter. Any RA in the lab for at least one year can expect a letter of recommendation, which will typically be co-written by their mentor and the PI. The lab aims to pay all research assistants. There are many avenues by which this might happen, including work-study, funding from Dartmouth, and funding from the lab itself. These options will be discussed when you join the lab. A minimum time commitment of 10 hours per week is expected.