

# Smith Lab Handbook

Last updated: July 2024

This lab handbook outlines the mission, expectations, and policies governing our work in the Smith Lab. All new lab members will be expected to read this document in its entirety and sign our compact in acknowledgement that you have read this document and agree to our policies. Please keep it handy as a reference. This document is not set in stone – it may shift over time - but its purpose is to provide a framework for considering how we learn and work as a collaborative group. It is also designed to help all lab members find answers to questions about expectations, how to do things, etc. If you have suggestions and/or questions outstanding, please let Caroline know! The goal ultimately is for everyone to learn as much as possible, produce high-quality data, and have fun!

This handbook was created by Dr. Caroline Smith and was inspired by and adapted from existing lab manuals – including those of Drs. [Annika Barber](#), Adrienne Antonson, [Maureen Ritchey](#), [Miriam Aly](#), Eva Fischer, Staci D. Bilbo, and the [AAMC Mentoring Compact](#) (can be found at the end of this document). It is meant to complement official Boston College policies and procedures. *All Boston College Policies, as well as those of the Psychology and Neuroscience Department take precedence over these.*

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### **1. Harassment and Discrimination**

We take policies regarding Harassment and Discrimination extremely seriously. Dr. Smith is committed to ensuring that the lab is a welcoming and safe environment for all its citizens. We do not tolerate harassment

or discrimination of any kind. If you ever have any concerns that you are being harassed or discriminated against, or notice someone else being harassed or discriminated against, please talk to Dr. Smith as soon as possible. If Dr. Smith is the cause of your concern, please bring your concerns to the appropriate departmental staff. [Boston College](#) and [Psychology and Neuroscience Department](#) policies can be found here.

## 2. Research Ethics and Integrity

The Smith Lab and Boston College also take a firm stance on research misconduct. **It is absolutely never appropriate to fabricate, falsify, or plagiarize data or written work of any kind.** All Boston College policies on this topic can be found [here](#). Any allegation of this kind will be handled immediately. All lab members will be required to participate in Responsible Conduct of Research Training appropriate to their training level.

Most research misconduct is not committed by “bad actors”. It is largely the result of a system that makes people feel incredible pressure to produce and perform to keep their job or career path. If you are ever struggling because you feel as though you are not measuring up, or feel stressed about the progress of your research, please talk to Dr. Smith. It is totally normal to feel uncertain, but that never justifies fabricating or falsifying data. Doing so will only make things much, much, worse, and could destroy your own career as well as those around you. We are in the business of discovering the truth and learning about how the brain works – and all my years in science have taught me that if you focus on that and worry less about the professional outcome, everything works out.

- 3. Lab Mission:** The lab mission is our guiding principle that we can always come back to if we need a reminder of why we do what we do. This mission is fluid over time – it will shift as our emphasis changes and should always reflect the shared values and interests of our community.

### *Smith Lab Mission Statement*

*To learn and grow as human beings, scientists, and students, in a community that is highly collaborative, inclusive, and open to scientific discourse and creativity.*

*To work as a team to better understand neuroimmune interactions within the social brain with the long-term goal of providing insight into what goes awry in disorders characterized by social behavior changes such as autism.*

## 4. The Smith Lab Compact:

All members of the Smith Lab will commit to upholding our community agreement to the best of their ability. New lab members, please sign the Compact Form at the end of this document and return it to Dr. Smith within your first week in the lab.

## Smith Lab Compact

- a. We agree to create, and work actively to maintain, an inclusive and supportive community free from discrimination and harassment *for everyone*. We agree to be **kind**, honest, patient, and considerate with everyone.
- b. We agree to assume best intentions and approach all interactions with curiosity and compassion.
- c. We agree to show up fully. 80% of success is showing up. We will be fully present at work so that we can be fully engaged while we are here, while protecting our personal lives and identities outside of work. This means doing our best work, and being fully committed and attentive to whatever we are doing (bench work, meetings, etc.). This also means being accountable: being on time, showing up for our commitments, and being responsible for our animals and experiments.
- d. We agree to be collaborative. We are a team, and we can achieve the best results by being helpful and supporting each other. Science can feel very competitive, but in reality, teamwork is absolutely *essential*.
- e. We agree to take responsibility for ourselves. We will work to be self-reflective and to take ownership of our own career paths, admit our mistakes, and apologize when we need to. Admitting when we have made a mistake can be scary – but it is essential to doing good science! We strive for clear, open communication and the willingness to lean into discomfort to resolve any issues/conflicts that may arise.
- f. We agree to fail upwards! Science is always a process of trial and error – we will “fail” often. If you never fail, then you aren’t pushing up against your own limits. The important thing is to learn from your failures and try something new and failure-informed the next time.
- g. We agree to ask for help when we need it! And ask the question (whatever it is!).
- h. We agree to be constructively critical. Science is all about challenging our ideas to see if they hold water. We aim to create an environment in which everyone feels comfortable challenging each other scientifically (including challenging me!). This challenge will always be **KIND** and constructive. This last part is absolutely essential.
- i. We agree to conduct honest, open, reproducible science. Plagiarism, forgery, and or data manipulation will not be tolerated. We agree to keep impeccable records of scientific experimentation and to conduct all work with integrity.
- j. **We agree to dream big!!** And then break it down into smaller, accomplishable goals. We agree to celebrate our victories (however small) and support each other through the harder moments.

## 5. Lab Expectations

### a) What I expect from all Smith Lab Members: (building on the Compact)

- **Bring your passion and curiosity to your work!** Science is awesome – you get to discover entirely new things with the potential to help the world, and you have a high degree of ownership in the work you do. My #1 goal is to create an environment in which that passion and curiosity can come alive and be fostered. You are all essential to creating and maintaining that environment so please voice your suggestions and push me if you think it can be even better!
- **Work hard and take responsibility for your own scientific and professional journey.** This is a given, in any field. I expect you to do work you are proud of, to be proactive in seeking out opportunities (grants, conferences, training activities, etc), and to take initiative writing papers, grants, doing experiments, etc.). This also means taking responsibility for your experiments! We work with animals and so it is critical that we take seriously the commitment of their lives to our work. It is your mandate to make sure that you conduct your experiments when they need to be done, and to find coverage if you are sick, need to miss something, etc.
- **Take care of yourself.** Science is a marathon, not a sprint. Your wellbeing is a huge priority of the lab! While we may sometimes have to work long hours, we do not glorify workaholism and burn out. Cultivate your life outside of lab and respect that others have personal lives as well. Roughly 40 hours per week on average should be the norm. If you need to come in over the weekend, you can certainly take some hours off during the week to make up for this. Please use your vacation time (as outlined in Section 6b) and follow BC/lab policies for sick time and leave. Please let me know in advance when you will be taking vacation/time away and notify me when you are sick.
- **Adhere to the lab policies sections below.**
- **Show up for your colleagues.** We are all responsible for building our community. Be willing to help your lab mates if they need it. Thank your lab mates when they do help you! Clean up after yourself. Attendance at lab meetings and journal clubs, as well as department events, is mandatory for all lab members – except undergraduate students, and unless it conflicts with important experiments – which will usually take precedence (please discuss with Caroline in advance).
- **Be a little bit obsessive about your work!** This might sound funny, but most of the small errors in science can be avoided by double checking your work! Please work carefully and meticulously. This also goes for professional interactions – please be on time for meetings, and make your presentations, grants, papers, etc. as polished as possible. Make sure that all of your files are organized properly and backed up! If you supervise others in the lab, please check that they are doing this as well.

- **Communicate clearly and directly.** It seems like most issues in any work environment often come down to lack of understanding/communication. I hope that you will communicate directly with each other. I have an open-door policy and I hope that you will come to me if any issues or lab conflicts arise.

- Communication also applies to deadlines (see deadlines section below). If you need help with experiments/lab work, make sure you ask in advance. If you need me to review papers, grants, abstracts, etc. please let me know at least 1 week in advance (may increase depending on how busy I am with teaching/grants/etc).

**i. What I expect from Undergraduate Students:**

In addition to everything above, I expect undergraduate students to:

- Assist others with data collection and analysis.
- Work with your primary mentor (a full-time lab member) to develop a schedule every semester.
- Work with Caroline and your primary mentor in the lab to develop your project within the larger research of the lab – particularly important for senior/honors thesis students.
- Present your thesis work at the Psychology Department poster session (if you are doing a thesis).
- Be proactive in looking for opportunities (fellowships, etc).
- Attend lab meetings and journal clubs if your schedule allows (I think you will get a lot out of it!).
- Don't be shy about bringing all questions, comments, issues, etc. to Caroline and your other mentors in the lab.

**ii. What I expect from Research Assistants:**

In addition to everything above, I expect Research Assistants to:

- Assist others with data collection and analysis.
- Help Caroline with ordering and record keeping/protocol making for the lab, as well as financial/logistical management.
- Work on your own independent project in the lab – typically a fairly large portion of your time!
- Help Caroline to monitor lab safety and general lab practices.
- Help to maintain shared lab resources such as mouse colony, dropbox, etc.
- Pick up packages, deliveries, etc.
- Help with on boarding new lab members.

**iii. What I expect from Graduate Students:**

In addition to everything above, I expect Graduate Students to:

- Develop a thesis project in concert with Caroline. In general, we aim to meet the 3-paper option in the department and to follow the guidelines in the [Psychology and Neuroscience Graduate Program Handbook](#).
- Think about your long-term professional goals and talk to Caroline about how you can receive the best possible training to prepare yourself for whatever those goals may be.

- Keep Caroline well informed about key program deadlines, and work to meet these.
- Prioritize your research! You have many responsibilities as a graduate student, but conducting independent research is the main purpose of a PhD program.
- Mentor undergraduate students in the lab.
- Present your work both within BC, and at conferences. Apply for travel awards whenever possible.
- Apply for grants, including the NSF-GRP and the NIH F31 Fellowships. There are lots of smaller grants that can also be hugely helpful in bolstering your CV!

**iv. What I expect from Postdoctoral Fellows:**

In addition to everything above, I expect Postdocs to:

- Develop an independent research project – something that you would be excited to build on in your own lab someday should you chose to stay in academia.
- Keep an open dialog with Caroline about your career goals (these may change over time!) so that she can best support you in making them a reality.
- Help to train and mentor students in the lab and share your experience and knowledge with them.
- Apply for grants to support extended time in the lab as well as your work. This would include the NIH F32 Postdoctoral Fellowship and possible a K99 (depending on your career goals).
- Publish your results in a timely fashion and present your work regularly at conferences and at BC.

**b) What you can expect from me: (building on the Community Agreement)**

- You can (and should!) expect me to adhere to all the overall lab expectations and compact. In addition to the above, you should expect me to:
  - Maintain a clear vision of where research in the lab is going overall and keep projects on track within that scope.
  - Apply for and maintain funding support for our work in the Smith Lab.
  - Manage all the finances of the lab.
  - Take ultimate responsibility for the culture of the lab. I take making sure that the Smith lab feels like a safe and inclusive environment for everyone very seriously. I promise that I will always be trying to make sure of this, and to have an eye out for any issues that arise. Because I am not physically in the lab as often, I hope no one will ever feel afraid to come to me with anything that is bothering them/making them feel uncomfortable – and to let me know if that is not the case.

- To support each member of the lab as both a whole person and a scientist. My job is to help you succeed towards your professional goals – whatever those might be – and to help you find solutions and support if there are personal factors that are impeding your professional progress.
- To provide you with mentorship. This means meeting with you regularly (basis determined depending on stage, needs, etc.). For full-time members of the lab, we will also have yearly meetings to assess progress and goals for the coming year. This also means teaching you how to write academic papers, helping you to design, plan, and conduct experiments, and sharing my perspective on academia and issues related to professional development.
- Promote/build the lab and your work in the larger academic community. This means that I will:
  - present your work (with credit given!) at conferences.
  - build collaborations and relationships with faculty at other institutions.
  - introduce you to people at meetings.
  - Help you to find opportunities to present your work, as well as future job prospects.
  - Write you letters of recommendation.
- Adhere to the Commitments of Research Advisors laid out in the AAMC Compact (see end of document).

## 6. Lab Policies

### a. Lab Attire and Safety

All EHS, IACUC, Boston College policies must be adhered to when working in the lab or in the animal facility. No open toed shoes, or food/drink is allowed in the lab. Gloves should be worn whenever you are doing lab work. Lab coats/full coverage clothing, and safety goggles/gloves, etc. should be worn when working with dangerous chemicals. All lab members must complete all EHS and ACF trainings before beginning work in the lab.

No one should be doing anything dangerous (i.e. working with hazardous chemicals, sectioning on the cryostat, etc.) when the building is empty and no one else is around. Undergraduate students should never be doing these things when no one else is in the Smith lab *specifically*. Per ACF policy, undergraduate students are not allowed to work in the animal facility when ACF staff are not present (i.e. not after 6pm on the weekends or 2:30pm on the weekends) unless accompanied by a full-time lab member. Per EHS policy, in certain circumstances, undergraduates can apply for specific permission to work in the lab alone.

### b. Hours, Benefits, and Vacation Policy

I expect full-time lab members (research assistants, graduate students, postdocs) to be in person at work (in the lab, in class, TA-ing, etc.) between at least 10am-4pm most of the time and working the full number of hours for which we are compensated (usually 40 hours per week, or 35 hours with a 1hr lunch break). This is because I feel that I will be best able to mentor you, we will be

able to work most effectively as a team, and you will be best able to mentor others if you are coming into the lab regularly. As mentioned above, roughly 40 hours per week on average should be the norm. For graduate students, this includes your time spent in class and on other departmental responsibilities, as well as time spent in the lab. Science can sometimes demand long hours or weekend work. Recognizing this is a critical part of doing animal-based developmental research (as we do). It is essential that you make every effort possible to show up for your experiments, rain or shine. It is also your responsibility to find coverage if you cannot.

That being said, I do not want to promote a work culture where people feel pressure to work more than 40 hours per week. Things ebb and flow – if you work over the weekend or extra late, take the corresponding hours off. Just make sure you keep me posted of when you will be out.

You may have phases in your work when you can work from home/remotely or during off hours. My biggest priority is that you are getting your work done. Working from home will be handled on a case-by-case basis (you must let me know if you are doing this), and only makes sense when you don't have scheduled meetings, experiments, or mentoring responsibilities. During time spent working from the home, the expectation is that you will be available on slack, by email, etc.

There are some restrictions on working odd hours in the lab. No one should be doing anything dangerous (i.e. working with hazardous chemicals, sectioning on the cryostat, etc.) when the building is empty and no one else is around. Undergraduate students should never be doing these things when no one else is in the Smith lab specifically. Per ACF policy, undergraduate students are not allowed to work in the animal facility unless ACF staff are present (i.e. not after 6pm on the weekends or 2:30pm on the weekends) unless accompanied by a fulltime lab member.

Vacation time should be used! Graduate students are entitled to two weeks of vacation per year, as well as the week between Christmas and New Year (unless experiments are running). Research Assistants and Postdocs vacation time is accrued and set according to BC policy – but in general, the same applies as for graduate students. Please let Caroline know of any vacation plans at least two weeks in advance, make sure it doesn't conflict with experiments you have planned, and is marked on the Smith lab calendar. Everyone should be able to celebrate their religious holidays, so please talk to Caroline if those differ from BC's observed holidays.

Sick leave is also accrued according to official BC policies, as are policies for extended leave, parental leave, and disability policies.

### **c. Data Management**

Data management is ESSENTIAL to doing academic research. Our work is largely supported by taxpayer dollars. It is imperative that we take that seriously. It is everyone's responsibility to take detailed notes and keep meticulous records of their experiments. Please make sure that all notes are taken in a proper lab notebook – which means one with pages that don't tear out, and that all notes include the date, your name, and what the experiment was. If you are storing records in your drive folder, make sure that all files are similarly labeled so that someone with no prior knowledge of the experiment would know what they were relevant to. All research related materials should be made and stored directly within the shared Smith Lab dropbox account so that no data is at risk of being lost! If you are supervising someone else in the lab, it is your responsibility to check their



work on this sort of thing. Please save all files as excel sheets in the google drive – not google sheets – so that they can be transferred across platforms.

All raw data (video files, imaging files, etc.) should be saved in two places (for example on the McGuinn server and the Research Data Server) immediately after it is collected. There could be very serious repercussions down the line if raw data is not readily available or is lost.

#### **d. Authorship**

We follow the APA Guidelines for authorship credit:

*“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, or 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.”*

When beginning a new project, the trainee leading the project can expect to be the first author on that work – and this will be discussed explicitly at the start. Caroline will usually be the last author. Other lab members who assist with the project should expect to be made co-authors on the paper. Author order will be discussed with all authors when the manuscript is being prepared. Authorship should be revisited throughout the lifespan of a project. Things can change over time given that projects can take unexpected turns, effort can change over time, and new collaborations can be introduced. Please come to Caroline if you have any questions about authorship, or if conflicts around authorship arise. Particularly for something as sensitive as this, open and frequent communication is key!

If you leave the lab with unpublished work and you are staying in an academic path, it is expected that you will continue to see that work through the publication process. If you are transitioning to a different career, or if you do not wish to complete the publication process, this work will be transferred to someone else in the lab to finish. In this case authorship order will be revisited depending on the amount of work left to be done, etc.

#### **e. Deadlines and Recommendation Letters**

Please stay on top of deadlines you need to meet and give me at least **1 weeks’ notice** (two weeks is better!) for anything you need me to look over, give you feedback on, etc. At very busy times, I may ask that you let me know even further in advance.

Letters of recommendation are critical, and you can always expect me to provide these for you – even after you have left the lab. Please give me at least **2 weeks’ notice** of any letters you need me to write, and provide an up-to-date copy of your CV, the instructions for submitting the letter, and any addition needed materials in the form of an email.

#### **f. Travel to conferences**

Attending conferences is a fun and enriching experience and my goal is to support everyone in attending as often as possible. For undergraduate students and research assistants, this is not guaranteed, but may be possible depending on funds and whether there is sufficient data for a cohesive poster. *For graduate students and postdocs, you can expect that I will support your attendance to at least one national conference per year (assuming that the lab funds are available), maybe more if funds allow.* All available funding through the Psychology and Neuroscience Department, as well as the Graduate School of Arts and Sciences, should be availed of first. I expect that you will keep costs as reasonable as possible and that you will find a roommate for hotel stays (from within the lab/department or the conference websites, etc.). It can be a large financial burden to have to cover travel costs up front as a graduate student. Please talk to Caroline if this is an issue and we can always find some way to work it out. I encourage all members of the lab to apply for any travel awards for which they are eligible – including undergraduate students. Travel awards look great on your CV and can provide added opportunities to attend more meetings in more cool places! Obtaining extra funding - either as a part of larger grants or through travel awards – can also provide the opportunity to attend international conferences and more expensive workshops, etc.

A few notes on conference travel:

1. Make sure to save receipts for all reimbursements.
2. Save your badge (sometimes necessary to prove you attended).
3. For international conferences, you must pre-register through the BC travel registry.
4. Graduate students need to request departmental/GSAS funding BEFORE the meeting.
5. At the meeting, please attend all relevant talks (and ask me if you aren't sure which ones those are). You obviously can't attend everything, but you should be present at the majority of the meeting.
6. Please be prepared to relay 3 specific scientific things you learned at the conference at lab meeting when you come back!

## 7. Lab Resources

**Dropbox:** Detailed protocols for new lab members, as well as experimental protocols and instructions for accessing Smith Lab resources, can be found in the Smith Lab Shared Dropbox. All new lab members will be added to the Smith Lab Shared Dropbox and expected to use it exclusively for creating and storing all their work. This should be done by downloading the Dropbox desktop app and using it like a regular documents folder (rather than for example creating google documents online).

**Slack:** Most day-to-day communication will be conducted via Slack. All members of the lab are expected to respond in a timely manner to slack messages during normal work hours. As a note, all slack messages/files are deleted after 90 days! So, if something is shared with you, please save it immediately so that you don't lose it!

**Trello:** Full-time lab staff will be added to the Smith Lab Trello. We use Trello for project management and to keep track of weekly to-do lists, progress, etc.

## 8. Boston College Resources

[Boston College Employee Handbook](#)

[Boston College Postdoctoral Policy](#)



## Smith Lab Compact

- k. We agree to create, and work actively to maintain, an inclusive and supportive community free from discrimination and harassment *for everyone*. We agree to be **kind**, honest, patient, and considerate with everyone.
- l. We agree to assume best intentions and approach all interactions with curiosity and compassion.
- m. We agree to show up fully. 80% of success is showing up. We will be fully present at work so that we can be fully engaged while we are here, while protecting our personal lives and identities outside of work. This means doing our best work, and being fully committed and attentive to whatever we are doing (bench work, meetings, etc.). This also means being accountable: being on time, showing up for our commitments, and being responsible for our animals and experiments.
- n. We agree to be collaborative. We are a team, and we can achieve the best results by being helpful and supporting each other. Science can feel very competitive, but in reality, teamwork is absolutely *essential*.
- o. We agree to take responsibility for ourselves. We will work to be self-reflective and to take ownership of our own career paths, admit our mistakes, and apologize when we need to. Admitting when we have made a mistake can be scary – but it is essential to doing good science! We strive for clear, open communication and the willingness to lean into discomfort to resolve any issues/conflicts that may arise.
- p. We agree to fail upwards! Science is always a process of trial and error – we will “fail” often. If you never fail, then you aren’t pushing up against your own limits. The important thing is to learn from your failures and try something new and failure-informed the next time.
- q. We agree to ask for help when we need it! And ask the question (whatever it is!).
- r. We agree to be constructively critical. Science is all about challenging our ideas to see if they hold water. We aim to create an environment in which everyone feels comfortable challenging each other scientifically (including challenging me!). This challenge will always be **KIND** and constructive. This last part is absolutely essential.
- s. We agree to conduct honest, open, reproducible science. Plagiarism, forgery, and or data manipulation will not be tolerated. We agree to keep impeccable records of scientific experimentation and to conduct all work with integrity.
- t. **We agree to dream big!!** And then break it down into smaller, accomplishable goals. We agree to celebrate our victories (however small) and support each other through the harder moments.

I, \_\_\_\_\_, hereby agree that I have read the Smith lab compact and manual and commit to upholding lab culture and policies to the best of my ability.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_