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Lab Wiki

Welcome

It looks like you recently joined the NeuroDataScience - ORIGAMI Lab at McGill University in the Montreal Neurological Institute. That's great! We're really glad to have you hise, and will do what we can to make your time in the lab amazing. We hope you'll learn a lot about psychology and neuroscience, develop new skills (coding, data analysis, writing, giving talks), make new friends, and have a great deal of fun throughout the whole process.

This lab manual is adapted from the manual for the Aly Lab. It's also a work in progress. If you have ideas about things to add, or what to clarify, bring it up at a lab meeting.

When you join the lab, you're expected to read this manual so you know what's expected of you and what you can expect from the lab.

 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 (and cite us and the Aly lab manual!).

Expectations and Responsibilities

Everyone

Big Picture

Science is hard. But it's also fun. In this lab, we want to make sure that everyone experiences a positive, engaging, hostility-free, challenging, and rewarding lab environment. To maintain that environment, we all have to do a few things.

- Work on what you're passionate about, work hard at it, and be proud of it. Be so proud of it that you have to suppress bragging (but it's ok to brag sometimes).
- Scientists have to be careful. Don't rush your work. Think about it. Implement it. Double and triple check it. Incorporate sanity checks. Ask others to look at your code or data if you need help or something looks off. It's ok to makes mistakes, but mistakes shouldn't be because of carelessness or rushed work.
- If you do make a mistake, you should definitely tell your collaborators (if they have already seen the results, and especially if the paper is being written up, is already submitted, or already accepted). We admit our mistakes, and then we correct them and move on. We all want to get papers published and do great things. But we do this honestly. It is never ok to plagiarize, tamper with data, make up data, omit data, or fudge results in any way. Science is about finding out the truth, and null results and unexpected results are still important. This can't be emphasized enough: no academic misconduct!
- Support your fellow lab-mates. Help them out if they need help (even if you aren't on the project), and let them vent when they need to. Science is collaborative, not competitive. Help others, and you can expect others to help you when you need it.
- Respect your fellow lab-mates. Respect their strengths and weaknesses, respect their desire for quiet if they need it, and for support and a kind ear when they need that. Respect their culture, their religion, their beliefs, their sexual orientation.
- If you're struggling, tell someone (feel free to tell JB!). Your health and happiness come first. The lab looks out for the well-being of all its members. We are here to help. It's ok to go through hard patches (we all do), but you shouldn't feel shy about asking for help or just venting.
- If there is any tension or hostility in the lab, something has to be done about it immediately. We can't thrive in an environment we aren't comfortable in, and disrespect or rudeness will not be tolerated in the lab. If you don't feel comfortable confronting the person in question, tell JB. In any case, tell JB.
- If you have a problem with JB and are comfortable telling him about it, do! If you aren't comfortable, then tell your IPN mentor (if you are an IPN student), or else follow these guidelines for resolving workplace conflicts at McGill.
- Stay up to date on the latest research, by using RSS feeds and/or getting journal table of contents. Also consider following scientists in the field on Twitter
- Remember the lab philosophy: **[JB, do you have a lab philosophy?]**. Have a life outside of the lab, take care of your mental and physical health, and don't ever feel bad for taking time off work.

Small Picture

- *Boots*: In winter, we take off our boots and leave them on the plastic mat by the door. We leave indoor shoes in the office.
- *Fragrances*: Please don't wear strong artificial scents or eat strong-smelling food in the office.
- *Coffee*: If you want to drink the coffee regularly in our lab, bring a 500-g pack of beans roughly every other week. If you just drink coffee once in a while, maybe put some coins in the jar beside the machine once in a while.
- *Snacks*: Feel free to take snacks from the 'snack cabinet' (white/clear set of plastic drawers), and bring in snacks once in a while if you want to participate.
- *Lunch*: We often try to eat lunch together around noon, and you're welcome to join! But check the #lunch channel of the slack group to see when/where/whether people are meeting.
- *Dress code*: The dress code is casual.
- *Noise*: I love that lab members get along and want to spend time with one another. This is a critical aspect of a productive, friendly, and positive lab environment. But I also realize that you are all very busy and want to have a place to focus and work quietly. Thus, we have devised these policies so that you can all work effectively:
  1. General quiet time: Quiet time is between 9am and 5pm in the lab. Please respect other people's needs to work quietly in lab during those times by lowering your voice and generally keeping noise to a minimum. If you do need to talk, do it quietly and/or set up a meeting in another room.
  2. Headphone rule: If someone is wearing headphones, respect their need for quiet. Do not tap them on the shoulder to talk. Do not talk loudly next to them.
  3. Flexible work locations: Feel free to work from home, a library, an unused running room, or anywhere else when Policies 1 & 2 aren't enough, or you just need a day of privacy. If you are doing this, please put it in the lab calendar.

Principal Investigator

In addition to the above expectations, I promise to...

- Support you (scientifically, emotionally, financially)
- Give you feedback on a timely basis, including feedback on project ideas, conference posters, talks, manuscripts, figures, grants
- Be available in person and via e-mail on a regular basis, including regular meetings to discuss your research (and anything else you'd like to discuss)
- Give my perspective on where the lab is going, where the field is going, and tips about surviving and thriving in academia
- Support your career development by introducing you to other researchers in the field, promoting your work at talks, writing recommendation letters for you, and letting you attend conferences as often as finances permit
- Help you prepare for the next step of your career, whether it's a post-doc, a faculty job, or a job outside of academia
- Care for your emotional and physical well-being, and prioritize that above all else

Post-Docs

In addition to the above expectations, your are also expected to...

- Develop your own independent line of research.
- Help train and mentor students in the lab (both undergraduate and graduate) when they need it – either because they ask, or because I ask you to.
- Present your work at departmental events, at other labs (if invited), and at conferences.
- Apply for grants.
- Apply for jobs (academic or otherwise) when you're ready, but no later than the beginning of your 4th year of post-doc. If you think you'd like to leave academia, that's completely ok – but you should still treat your post-doc seriously, and talk to me about how to best train for a job outside academia.
- Challenge me (JB) when I'm wrong.

Technical support staff

In addition to the above expectations, your are also expected to...

- [whatever Lex does]

Graduate Students

In addition to the above expectations, your are also expected to...

- Develop your dissertation research. Your dissertation should have at least 3 substantial experiments that answer a big-picture question that you have. Much of your work has to be done independently, but remember that others in lab (especially JB!) are there to help you when you need it.
- Help mentor undergraduate students and interns in the lab when they need it – either because they ask, or because I ask you to.
- Present your work at departmental events, at other labs (if invited), and at conferences.
- Apply for grants (e.g., FRQ, NSERC, CIHR). It's a valuable experience, and best to get it early.
- Think about what you want for your career (academia – research or teaching, industry, science writing, something else), and talk to JB about it to make sure you're getting the training you need for that career.
- Make sure you meet all departmental deadlines (e.g., for your exams and thesis) - and make sure JB is aware of them!
- Prioritize time for research. Coursework is important, but ultimately your research gets you your PhD and prepares you for the next stage of your career.

Interns and Undergraduate Students

In addition to the above expectations, your are also expected to...

- Discuss early on with JB what the requirements are for your course/thesis/internship so you can plan your project effectively.
- Think about what you want out of this experience and your career (academia – research or teaching, industry, science writing, something else), and talk to JB about it to make sure you're getting the training you need for that career.
- Attend weekly lab meetings.

Code of Conduct

Essential Policies

The lab, and the university, is an environment that must be free of harassment and discrimination. All lab members are expected to abide by the McGill University policies on discrimination and harassment, which you can (and must) read about here. Essential policies of McGill University can be accessed here.

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 gender, gender identity and expression, sexual orientation, disability, physical appearance, body size, race, or religion. We will not tolerate intimidation, stalking, following, unwanted photography or video recording, sustained disruption of talks or other events, inappropriate physical contact, and unwelcome sexual attention. Finally, it should go without saying that lewd language and behavior have no place in the lab, including any lab outings.

If you notice someone being harassed, or are harassed yourself, tell JB immediately. If JB is the cause of your concern, then reach out to the department chair or another trusted faculty member in the department (such as your IPN mentor, if you are an IPN student).

Scientific Integrity

Research (Mis)conduct

A big problem is why people feel the need to engage in misconduct in the first place, and that's a discussion that we can have. If you are feeling pressured to succeed (publish a lot, publish in high impact journals), you should reach out to JB and we can talk about it – but this pressure is something we all face and is never an excuse to fabricate, falsify, or plagiarize. Also, think about the goal of science and why you are here: you're here to arrive at the truth, to get as close as we can to facts about the brain. Not only is research misconduct doing you a disservice, it's also a disservice to the field. And it risks your entire career. It is never right and never worth it. Don't do it.

Reproducible Research

If you gave someone else your raw data, they should be able to reproduce your results exactly. This is critical, because if they can't reproduce your results, it suggests that one (or both) of you has made errors in the analysis, and the results can't be trusted. Reproducible research is an essential part of science, and an expectation for all projects in the lab.

For results to be reproducible, the analysis pipeline must be organized and well documented. You should use version control (preferably git and GitHub) to track your code, and it should be available on the lab's GitHub repository.

Additionally, your code should also be commented, and commented clearly. We all know what it's like to sit down, quickly write a bunch of code to run an analysis without taking time to comment it, and then having no idea what we did a few months down the road. Comment your code so that every step is understandable by an outsider.

Authorship

Like 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 student or post-doc taking on the lead role can expect to be first author (talk to JB about it if you aren't sure). JB will typically be the last author, unless the project is primarily under the guidance of another PI and JB is involved as a secondary PI – then JB will 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 student or post-doc takes on a project but subsequently hands it off to another student or post- doc, they will most likely lose first-authorship to that student or post-doc, 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 challenge it.

Taking Photos & Videos

We respect the privacy and comfort of lab members by only taking photos or video recordings of them with their explicit knowledge and consent. To avoid ambiguity about when a lab member is vs is not

aware of photos being taken, we ask that everyone obtain consent from lab members before taking photos or videos, and obtain consent again before posting any images on social media.

This is done to respect others' privacy and acknowledge that people have varying degrees of comfort related to being photographed and especially with having those photographs shared on social media.

The goal of this is to foster an environment where everyone feels safe to be who they are, take risks, and have fun, without worry or self-consciousness. If someone wants to be photographed doing something fun or silly in lab events, and consents to be photographed, by all means go ahead! Just please respect the privacy of those who do not want that.

Lab Resources

Slack

Slack will be used as the primary means of lab communication. Our slack is called hyperaligned_neuroinformatics (hyper-neuro.slack.com), a name that came from the days before we had decided on an official lab name.

Github

Our GitHub repository is where we keep all of our code for projects that occur in the lab.

Google Calendar

If you need to be away from the lab during normal hours for any reason, please mark it on the lab calendar, called Poline Lab. This includes sick days, holidays, classes, and meetings outside the lab.

Website

We would like to keep an up-to-date lab website.

If you are new to the lab, please put your info on the website with the following steps

- Fork this repository: https://github.com/neurodatascience/neurodatascience.github.io
- add your info to data/team_members.yml
- add a picture of yourself to the Images/teampic/ folder

If you have accomplished something like teaching a workshop or publishing a paper, add a news item and a link to the materials.

HPC

If you need high-performance computing resources for your project, talk to JB about getting a Compute Canada account.

Mailing lists

The following mailing lists will be useful for keeping up with the scientific community outside the lab here at the MNI and in Montreal:

- Add yourself to the mailing list of the Brain Imaging Center by filling out this form in order to hear about guest lectures and other events.
- Get added to the mailing list of the Ludmer Centre for Neuroinformatics and Mental Health by sending your name, media affiliation, city and e-mail to info@LudmerCentre.ca, in order to hear about guest lectures and other events.
- Get added to the Google Group for Open Science Beers/Beverages to hear whether/when/where OSB is happening each week
  - People from our lab and other labs/institutes in Montreal who are interested in open science have a casual social roughly every week on Wednesdays around 4:44-6:30 pm. The location changes, but it's usually at Else's. Often someone will send an email out to the Google Group to confirm that someone will be there.

Printer

Set up your access to the lab printer following [these instructions]](http://kb.mcgill.ca/kb/?ArticleId=1348&source=article&c=12&cid=2#tab:categoryTab:crumb:2:artId:2658:src:article).

General Policies

Hours

Being in lab is a good way of learning from others, helping others, building camaraderie, having fast and easy access to resources (and people) you need, and being relatively free from distractions at home (e.g., your bed or Netflix). I would like you to be in the lab from approximately 9-5 Monday-Friday.

Sometimes we send emails or Slack messages outside of normal working hours. We do not expect you to respond until you are back at work. I do not expect there to be cases when I suddenly and urgently need something from you over the weekend (e.g., for a grant deadline), but should I anticipate that happening, I will bring it up in advance so we can plan accordingly. All this said, I realize that being told you can ignore my messages might not take away the stress of seeing my messages if you check work email or Slack in the evenings or on weekends. If my off-hours messages are unwelcome and cause distress, please talk to me, and I will be better at not bothering you during your time off. Although I sometimes work weekends, I try to only do that when absolutely necessarily. Please respect that by making sure to give me enough heads-up about impending deadlines so that I can get things done for you (e.g., write letters of recommendation, give feedback on manuscripts, etc) while maintaining my work/life balance. For more details, see Deadlines.

PI Office Hours

In addition to weekly meetings (see below), you may be able to find JB in his office. However, you will probably have a better chance of finding him if you send him a Slack message or email, or if you wait for him to come by the lab for coffee. If he doesn't have time to talk immediately when you find him, he'll find another time to meet.

Meetings

Lab Meetings

We hold weekly lab meetings (check in the Slack channel #lab_meetings for changes to place/time)

Before each lab meeting, fill in the meetings Google Doc with what you have been working on and anything you want to discuss (see Slack for link).

If you cannot attend the meeting, try to fill out the form anyways and people can comment on your paragraph if you are asking for feedback.

If you would like feedback on something you're working on, you can arrange to give a short (~20 min) presentation at a lab meeting. To arrange this, bring it up in a meeting before the one you're hoping to present at.

Individual meetings

Talk to me about setting up regular meetings regarding your project, or contact him when a meeting is needed. Keep in mind that I am very busy (as we all are), so the earlier you try to set up a meeting, the easier it will be easier to find a time.

Also, each lab member brings a set of skills and knowledge that can be useful to others, and such peer-to-peer teaching experience can be helpful in your academic development. If you need help with a specific tool (e.g., Docker) or advice in a knowedge area (e.g., functional connectivity), you can ask on Slack or bring it up at a meeting so we can match people who need and can offer help.

Deadlines

One way of maintaining sanity in the academic work is 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 JB as well).

Give JB 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 JB at least two weeks' notice (preferably more) to do something with a hard deadline that requires a moderate 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 JB before a hard deadline, give his 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 drafts to JB as soon as you have them, and bug his to give you feedback if he hasn't responded in two weeks – papers are important!

Presentations

Learning to present your research is important. Very 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 McGill), at conferences, or to the general public. 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 will also allow you to get feedback from the lab and implement those changes well in advance of your real presentation.

Some general rules for posters should be followed: minimize text as much as possible (if you wrote a paragraph, you're doing it wrong), make figures and text large and easy to see at a distance, label your axes, and make sure different colors are easily discriminable. Other than that, go with your own style.

JB 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. As with posters, feel free to go with your own style as long as it is polished and clear.

Recommendation Letters

Letters of recommendation are extremely important for getting new positions and grants. If you need a letter, notify JB as soon as possible with the deadline (see Deadlines for guidance), 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. In most cases, you may also be asked to submit a draft of a letter, which will be modified based on JB's experience with you, made more glamorous (people are much too humble about themselves!), and edited to add anything you left out that JB thinks is important. This will ensure that the letter contains all the information you need, and that it is submitted on time.

Data Management

Ask JB or Lex about how to get, store, and transfer data to Compute Canada. Do not share data unless you know from JB that it is okay; even some open datasets have sharing policies that we need to respect.

Open Science

We're all for open science, so lab members are encouraged (well, required) to share their code and data with others. Generally, we will try to make our data and code publicly available upon publication of the results at the latest.

We will also share our work with the world as soon as we ready, which means preprints! The lab policy is to upload a preprint of a manuscript simultaneously with initial submission to a journal. The preferred preprint servers are bioRxiv and PsyArXiv. We will also put PDFs of all our papers on the lab website, and you should share PDFs of your paper with whoever asks.

Funding

Funding for the lab currently comes from Healthy Brains for Healthy Lives, the National Inststites of Health, and the Canadian Open Neuroscience Platform. If you need to buy something, or have to charge a grant for something, let JB know and he and/or Diana will oversee the process.

At some point, you will likely be asked to provide a figure or two for a grant JB is writing, and/or provide feedback on the grant. Relatedly, you are entitled to read any grant JB has submitted, whether it is ultimately funded or not. Aside from being a good opportunity to learn how grants are written, this will also allow you to see his vision for the lab in the years ahead. Feel free to ask JB to see any of his grants.

Your are encouraged to apply for your own funding. While you are guaranteed funding if you are a student in the IPN, it is a good experience to secure your own funding. This is especially the case if you are planning to continue in academia; it's often important to demonstrate that you have received funding in order to get more funding (an unfortunate reality in academic culture). Explore these resources to find funding opportunities:

- The IPN page on potential funding sources for IPN students
- The Graduate and Postdoctoral Studies page on potential funding for McGill graduate students and postdocs