



Lab Manual for the Slab (V5_07/08/24)

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Welcome!

It looks like you recently joined the Salomon Lab at the University of Haifa. We're really glad to have you here at the **Slab** (Salomon lab). We hope you'll learn a lot about psychology and neuroscience, develop new skills (coding, data analysis and data science, writing, giving talks), make friends, and have a great deal of fun through the whole process.

This lab manual was inspired by several others, and borrows heavily from them (e.g., [this one](#) and [this one](#)). It's also a work in progress. If you have ideas on things to add, or what to clarify, talk to us - Roy Salomon (the PI), Amir Harduf (Research Fellow) or the lab managers (Ophir Netzer & Michal Oren

When you join the lab, you're expected to read this manual and [sign a form](#) indicating that you have done so.

General

The Salomon Lab (SLab) at the University of Haifa aims to produce high quality research into:

1. The cognitive and neural basis of the construct of the "Self".
2. The neural underpinnings of conscious experience.
3. Novel interventions to help populations with deficits in 1 & 2.
4. The Sense of Reality.
5. Psychedelics under trauma (NOVA project) and their effect on 1-3.
6. Impact of psychedelics on mental health

The lab supports [Open Science](#) practices including pre-registration of studies, open data, open code and open access.

SLab aims at advancing scientific knowledge as well as developing the careers of its members by providing an excellent and constructive scientific workplace.

Code of Conduct

The lab should be a safe, fun and supportive environment. Any behavior which is not in line with this is unacceptable. All conduct must be fair, respectful and honest. Specific university regulations regarding sexual harassment can be found [here](#).

All students studying in the university of haifa receive an email with a link to a sexual harassment prevention course. These will not be elaborated further in this Manual.



Expectations and Responsibilities

Everyone

Big Picture

Science is hard. But it's also fun. In SLab, we want to make sure that everyone experiences a positive, engaging, 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.
- Scientists have to be careful. Don't rush your work. 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 make mistakes, but mistakes shouldn't be because of carelessness or rushed work.
- If you do make a mistake, tell your collaborators (**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.
- Be supportive of your lab mates. We are a team.
- Respect your fellow lab-mates. 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.
- Respect the administrative staff of the department, they work hard to help us!
- If you're struggling, tell someone (feel free to tell Roy / Amir / Ophir). Your health and happiness come first. The lab looks out for the well-being of all its members.
- 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 Roy, Amir, or Ophir.
- Science is a marathon, not a sprint. Take personal time/vacation when you need it and cultivate a life outside of the lab. Respect that other lab members also have a life outside of the lab.
- **Academia may feel different from other types of jobs, but it is still a job. You should treat coming into the lab with the same respect that you would treat any other position. See [Hours](#).**



Small Picture

There are a few day-to-day things to keep in mind to keep the lab running smoothly.

- **We wish to ensure a vibrant and active lab environment so we get to meet, discuss and work together. To make sure this happens we ask that everyone define the hours they will be at the lab (this of course can change periodically). We have a “Who’s at the lab” timetable [here](#). If you work at the lab please mark when you’ll be there so everyone can know when we are present and available to meet and work together.**
- If you’re sick, **stay home** and take care of yourself. Because you need it, and also because others don’t need to get sick. If you’re sick, reschedule your meetings and participants for the day (or the next couple of days) as soon as you can.
- Notify the lab managers or me if you will be out, either due to illness or vacation. Make a note on the lab calendar. If you are sick and you had experiments or meetings scheduled that day, notify your participants or collaborators and reschedule.
- **Vacation should be arranged** sufficiently far in advance to ensure cover is available for your tasks (e.g., testing participants), **in consultation with the PI.**
- You aren’t expected to come into the lab on weekends and holidays, and you aren’t expected to stay late at night. **You are expected to get your work done** (whatever time of day you like to do it).
- Show up to your meetings, show up to run your participants, show up to your classes, and show up to lab meetings. You do not have to be in at 9am every day – just show up for your commitments, and work the hours you need to work to get stuff done.
- Working from home is generally ok but discuss this with the PI in advance so your absence is made known.
- Make sure the door to the lab is locked if no one is inside. Turn off the lights if you’re the last one leaving for the day.
- Keep the lab tidy. Eating in the lab is fine, but clean up food waste, crumbs, spills. Put lab equipment back where you found it. Keep common areas uncluttered.
- The dress code in academia is generally casual. My only request is that you look semi-professional when interacting with participants and when presenting your work. Jeans are fine, gym clothes and pajamas are not.
- Be on time. Especially when you are running participants – in fact, show up 15-20 minutes early to set everything up. And be on time for your meetings: respect that others have packed days and everyone’s time is valuable.



Principal Investigator

All of the above, and I promise to also...

- Maintain a vision of where the lab is going.
- Provide the funding necessary to keep the lab going.
- Meet with you regularly to discuss your research projects. The definition of "regularly" may change over time or over the course of a project, but for now, I mean once a week or more often as needed.
- Give you my perspective on academia and issues related to professional development.
- Support your career development by introducing you to other researchers in the field, writing recommendation letters for you, providing you with opportunities to attend conferences when possible, and promoting your work in talks.
- Care about you as a person and not just a scientist.

Post-Docs

All of the above, and you will also be 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 external funding. I will hire postdocs only when there is funding available for at least a year; however, applying for external funding is a valuable experience and, if awarded, it will release those dedicated funds for other purposes.
- Apply for jobs (academic or otherwise) when you're ready, but no later than the beginning of your 4th year of postdoc. 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 (Roy) when I'm wrong or when your opinion is different, and treat the rest of the lab to your unique expertise.

PhD / MSc Students

All of the above, and you will also be expected to...

- Develop your dissertation research. Your dissertation should have at least 3 substantial experiments (PhD) or to be involved in 1-2 experiments (MSc) that answer a big-picture question that you have. Much of your work has to be done independently, but remember that others in the lab (especially Roy!) are there to help you when you need it.



- Help mentor undergraduate students in the lab when they need it – either because they ask, or because I ask you to. Undergrads can also help you collect data.
- Present your work at departmental events, at other labs (if invited), and at conferences.
- Apply for grants. 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 Roy 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 Roy is aware of them!
- Prioritize time for research. Coursework and Teaching are important, but ultimately your research gets you your Masters or PhD and prepares you for the next stage of your career. However, it is your responsibility to get the grades you need for your career (e.g. for MSC, PhD.).

Undergraduate Students

All of the above, and you will also be expected to...

- Assist other lab members with data collection and analysis (unless you are working on your own independent project under the mentorship of another lab member, in which case you should work on that).
- Undergraduate students working by salary are requested to be available for work 12-15 hours per week, and students doing “guided research” for 8 hours per week. This includes mandatory weekly Journal Club meetings. We understand this may change during the exam period.
- Develop your weekly schedule by talking to your graduate student mentor or your postdoc mentor. You should be coming in every week, and scheduling enough time to get your work done.
- If you are earning course credit for research, you must also attend lab meetings when your schedule permits, present at one of these lab meetings, and submit a write-up of your research by the end of the semester.

Lab manager

All of the above, and you will also be expected to...

- Help Roy manage the lab.
- Maintain the lab IRB protocols and paperwork (e.g., archiving consent forms).
- Make purchases and payments on the lab's behalf.



- Oversee the hiring, scheduling, and training of undergraduate research assistants.
- Assist with participant recruitment and scheduling.
- Assist other lab members with data collection or analysis (typically you will be assigned to particular projects).
- Help to maintain an atmosphere of professionalism within the lab.
- Work on your own research project.
- Be in the lab on a regular basis -- more than other lab members, your presence in the lab when others are around is essential.

General Policies

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."

At the start of a new project we will discuss authorship. Roy will typically be the last author. Authorship will primarily reflect the contribution to the project, and will be decided by Roy. We will try to make this clear in advance so no surprises occur. We can always talk about authorship, but best to have it made clear from the start.

Hours

Being in the lab is a good way of learning from others, helping others, building camaraderie, and having fast and easy access to resources (and people). That said, hours in academia are more flexible than other jobs -- but you should still treat it as a real job **(40 hours/week) and show up to the lab**. If you are getting paid by the lab you are expected to come work at the lab, like you would do for any other job. If you are an MSC student or a PhD you are expected to be at the lab every day (apart from days which you need to work elsewhere e.g. fMRI scanner, psychiatric hospitals). If you are an undergraduate student, talk to Roy to see what hours are expected from you.

My primary concern is that you get your work done, so if you find that you are more productive at home (lab-mates can be chatty sometimes), feel free to work at home **occasionally**. If you have no meetings, no participants, and no other obligations that day, it might be a good day to work at home – but you can't do this all the time, **and I expect to see everyone in the lab on a regular basis**.

The only exception to this is lab managers / research assistants, who must keep more regular hours.



For graduate students, I understand having to be away for classes and TA-ing, but you are expected to show up to the lab on a regular basis when you don't have those obligations.

To encourage lab interaction, try to be on most weekdays during 'peak' hours (assuming no other obligations) – e.g., between 10am and 6pm. This is not a hard rule, you can work at home **occasionally**, and I understand other obligations.

Everyone should make their lab hours known in the "Who's in the lab" table. Note to keep this updated so we all know Who's at the lab.

PI Office Hours

In addition to weekly meetings (see below), and occasionally dropping by the lab, you can usually find Roy in his office (Rabin building, 7th floor). The door is almost always open; if it is, feel free to ask for a chat. If the door is closed, if urgent knock once and see if I holler back, otherwise email me.

Lab Resources

Google Calendars

The lab uses Google calendars:

1. SLab calendar: *used to keep track of lab events, including any lab meetings just for our lab, and birthdays!*
2. Experimental Room & Equipment calendar: *used to keep track of experiments in the lab.*
3. *We may add additional calendars as needed.*

Emails and documents

We use email a lot so this communication must be optimized.

1. Don't Spam.
2. Keep it short and clear.
3. We will be sharing many documents over email. Make sure to label them well. For example "results" or "project" are no help. Pls write in the subject line what project this is e.g. MRHI_EEG_Pilot or VR_Agency_Meta. Files should have meaningful names including the project name and their content "JoV_intorduction_V3", "MRHI_EEG_Results_12_SS".
4. When we are working on a document together, always use the Track **Changes** option in word so we can have some version control. When



sending back and forth corrections on a version add your initials at the end e.g. "Dvir_Thesis_Intro_V3_RS".

5. Before Sending an Email or Document Always check it using Spelling and Grammar (F7 in word).

Knowledge Requirements

Graduate students are expected to develop and enhance their knowledge in the following areas: basic and advanced statistics, coding (with a focus on Python, which is predominantly used in the lab), scientific writing, and GitHub usage. While these topics are not mandatory for undergraduate students, we strongly recommend that they start building their skills in these areas, particularly if they plan to pursue an advanced degree in our lab.

List of recommended resources for these subjects is accessible:

Statistics:

[Improving statistical questions](#)

[Statistical inferences](#)

Phyton

[Neuraldatascience course](#) (Recommended to follow the text, not videos)

[Developers.google.python - introduction](#)

[Developers.google.python - strings](#)

[Developers.google.python - python](#)

Scientific Writing

[How to write a paper](#)

[How to write an Abstract](#)

General

[What They Don't Teach in Neuro Classes \(But You'll Need in the Lab\)](#)

[Ten principles for reliable, efficient, and adaptable coding in psychology and cognitive neuroscience](#)

Also see this main [folder](#) in the lab's drive

Cooperative codes & Git-hub

Our work is built on the work of those who came before us. Therefore, the lab encourages work on generical tools that can be used by all of us, and the next in line. Always strive to leave behind a protocol for the work you have done. We are currently working on a Git-hub solution for that specific manner. Feel free to contact Amir for any questions or comments regarding this manner.



Slab Website

The Slab website can be found here <https://www.salomonlab.org/> all our papers are there. When you join the lab as a student please send Amir & Daniel (amirharduf@gmail.com, danielsand3@gmail.com) a picture you like and a short bio as found here: [Our Team - Salomon Lab](#) (if you are a research assistant and not an official student there is no need to send it for now). The lab site will be maintained by a student from the lab (currently Daniel).

Communication

Email: You can email me anytime.

Whatsapp: You can Whatsapp me personally for urgent stuff, otherwise mail me.

We can create ad hoc groups for tight and quick communication.

Phone

During business hours call me if needed urgently otherwise email. If very urgent or emergency, call me anytime.

Equipment

We have lots of equipment, some is very expensive (e.g., EEG at 300000 NIS) and some less but all of the equipment is critical for our work and should be taken care of. All equipment must be cleaned, charged and returned to its place after use. This is the responsibility of all lab members but to make it more personal:

fMRI Equipment (e.g, dongle, MRHl fmri.. etc..) - Gadi

VR - Maya

EEG & Heart monitoring equipment - Avraham

Ophir & Michal as lab managers have oversight for all equipment and if you have a question go to them or come to me.

Meetings

Weekly Lab Meetings

Weekly lab meetings (~1.5 hours each, 14:00 PM Wednesday) 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. These lab meetings can also be used to talk about methods, statistical analyses, new papers, and career development. For paper discussions, everyone must come to the lab meeting



having read the paper and prepared with comments and questions to contribute. Some weeks we may explore a particular issue and have people read different papers – in that case, come to a lab meeting having read your paper and be prepared to summarize it for the group.

The lab meeting is a course and lab members **MUST** be registered. Each graduate student (MSc) or above is expected to present at least once a year. These meetings are informal, and you can do what you wish with your slot – just be prepared to contribute something substantive. Lab members are also expected to attend every meeting (obviously, illnesses, doctor appointments, family issues, etc are a valid reason for missing a meeting). Undergraduate students are encouraged to attend as often as possible (assuming it fits in their course schedule) and to present in the meeting too (Optional). SLab meeting agendas and notes will be kept in the SLab calendar.

Individual Meetings

At the beginning of each semester, we will set a schedule for weekly meetings. Each full-time lab member (RAs, graduate students, post-docs) will have a one-hour slot set aside to meet with Roy. If scheduling conflicts arise (e.g., because of travel), we can try to reschedule for another day that week. If there is nothing to discuss, feel free to cancel the meeting or just drop by for a brief chat.

Roy will meet with undergraduate students every other week (or according to need); postdocs and graduate students should meet with their undergraduate mentee on a regular basis.

Deadlines

Deadlines are important to make things happen, so we will use them both for you and for me.

Recommended by Roy:

- Set clear deadlines for your work. Typically, this should be a 1-2 week deadline **set by you** indicating what you will have accomplished by our next meeting.
- Give Roy 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 Roy at least two weeks' notice to do something with a hard deadline that requires a lot of time (e.g., a letter of recommendation). For manuscript revisions, Thesis versions etc , give him at least 3 weeks, because these will require multiple back-and-forths.



- For manuscript submissions (i.e., no hard deadline), you can still bug Roy to give you feedback if he hasn't responded in a week or two – 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 postdoc 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 tUniversity of Haifa), 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.

Templates for posters ([example 1](#), [example 2](#)), and talks ([example](#)) are available and should be kept visually similar to the lab style. 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

Recommendation Letters

Letters of recommendation are extremely important for getting new positions and grants. You can count on Roy 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 postdocs are applying for fellowships shortly after starting in the lab.

Data Management

Storing Active Datasets

Lab data must be stored in two places:



1. Your computer.
2. Shared Slab Google drive (See Below for details on data structure).
 1. Store your data in the [DATA](#) folder.
 2. Inside the DATA folder choose (or open) your project folder.
 3. Inside your project folder choose (or open) your specific experiment's folder.
 4. Inside your specific experiment's folder upload the Subjects' folders according to the agreed upon data format from Alice's output. See example for this data structure [here](#).

I further recommend that you backup to the Hard disk provided by the lab. Each lab member should back up raw data on an external hard drive, as well as the code needed to reproduce all analyses.

Data Organization

All data in the lab will use the BIDS format

If you have already run several independent projects and have a data organization structure that works well for you, feel free to use it. If not (or if you are looking for a change), the following structure is recommended (based on [Neuropipe](#)):

- projectName/subjects
 - o individual directories for each of your participants
 - o projectName/subjects/{subj}/analysis
 - subject-specific analyses (e.g., 1st and 2nd level analysis – at the run level and experiment level)
 - o projectName/subjects/{subj}/data
 - raw data for that participant, with the following directories...e.g.
 - behavioralData (for, well, behavioral data)
 - eyetrackingData (if applicable)
 - nifti (raw nifti files / raw MRI and fMRI data)
 - rois (participant-specific ROIs)
 - o projectName/subjects/{subj}/design
 - timing files for that participant, with different directories for the different GLMs you're running (and the different runs in the experiment)
 - o projectName/subjects/{subj}/fsf
 - if you're using FSL, put the .fsf files here. If you're using SPM or something else, save the files for setting up preprocessing and GLMs here
 - o projectName/subjects/{subj}/scripts



- Matlab, Python, R, or bash scripts that you used for that participant. You should keep the 'template' scripts elsewhere, but you can store scripts you modified specifically for that participant here
- projectName/ Analysis_code
 - o template scripts and that you may modify for each participant, as well as scripts and functions used for all participants and group analyses
 - o recommend making subdirectories for each type of analysis (e.g., behavior, pattern analysis, functional connectivity, univariate)
 - o if you have scripts that are the same for each participant, you can have symbolic links for them in your participant-specific scripts directories
- projectName/results
 - o figures with main results, powerpoint or keynote presentations, manuscripts if you wish
- projectName/notes
 - o detailed notes about the design, analysis pipeline, relevant papers, etc
- projectName/group
 - o group analyses
 - o recommend making subdirectories for each type of analysis (e.g., behavior, pattern analysis, functional connectivity, univariate)
- projectName/task
 - o code for your behavioral experiment, stimuli, piloting information
 - o if you are running your presentation code out of Dropbox, it will still be good to have a copy of the code here (but you can keep the stimuli only on Dropbox if you'd like)

When you leave the lab, your projects' directories should be set up like this, or something similarly transparent, so that other people can look at your data and code. You *must* do this, otherwise your analysis pipeline and data structure will be uninterpretable to others once you leave, and this will slow everyone down (and cause us to bug you repeatedly to clean up your project directory or answer questions about it).

Archiving Inactive Datasets

Before you leave, or upon completion of a project, you must archive old datasets and back them up. We will develop the instructions for this when we reach our first inactive dataset.

Open Science

We're all for open science including:



1. Preregistration of projects
2. Code Sharing
3. Data Sharing
4. Preprints
5. Open Access

Lab members are required to share their code and data with others, whether they are in the lab or outside of it. Within the lab, you can share your code and data whenever you like. But do not share your code or data with the outside world until you think (and Roy agrees) that the lab has finished working with it. This gives us an opportunity to work with the data before releasing it for other people to use. Currently, the best option for sharing smaller datasets might be the Open Science Framework, and the best option for sharing MRI datasets is OpenfMRI.

We will also share our work with the world as soon as we are 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.

Sign

Once you have read all of this please sign this [form](#). If you have questions or you feel this guide can be improved, talk to the lab managers (Ophir & Michal) or the PI (Roy).

Good Luck!