

Memorandum of Understanding

The purpose of this Memorandum of Understanding (MoU) is to provide an opportunity for open and transparent communication between Dr. Head (Principal Investigator), Gabriel Hui (Lab Manager) and all of our laboratory team members. An MoU helps us to establish an understanding of: **1)** creating a mutual understanding of time spent contributing to the lab; **2)** what you hope to achieve while working in our lab and in turn; **3)** what we need to provide for you to make this time together a healthy, enjoyable, productive and outstanding learning experience. There are components to this MoU that are mandated and other components that may be fluid as new opportunities arise. We will continually draft this MoU together and meet regularly to ensure that we are all meeting each other's expectations and will modify the MoU as the lab grows. Our format may involve a formal mini-MoU to discuss these guidelines, Please read the following and acknowledge by signing at the end of this section.

The Head laboratory has specific expectations from you, as a team member, which we have outlined so that we can work in synchrony toward the goal of harmony.

Lab Culture

We have a warm and welcoming lab, and encourage dynamic collaboration and cross training amongst our team. A few key notes to be aware of: **1)** although we encourage collaboration, please be respectful of each other's time and space to work on their individual projects; **2)** familiarize yourself with your lab mates working styles – some need quieter environments, while others prefer a “chattier” style; **3)** be a good “roommate” by leaving a space cleaner than you found it – our lab has grown, but the work due to cleaning up after others or noise volume within your bay does not have to be a forgone conclusion; everyone contributing must keep a safe and clean workspace – especially when contamination becomes an issue; **4)** the laboratory staff have a duty to maintain the lab, uphold standard operating procedures (SOP) and run projects for Dr. Head – their priorities are not to clean after your messes or to do work for you. Let's work to be more mindful of those around us! :)

Ethics

We expect that you will be respectful to each other and accountable for your actions. Professional etiquette is expected within the work setting. We understand that some days are more difficult personally or academically than others. We only ask for you to communicate your needs ASAP, so that we may better provide resources to make these events more manageable. We believe that it is your responsibility to keep your personal and professional lives separate and balanced – please see the section on [Work/Life Balance](#).

We do not tolerate discrimination, harassment, nor academic dishonesty of any shape or form in our lab. If you see or hear any of these events – even if you are unsure of what constitutes inappropriate behavior – we ask that you immediately bring this to either Gabriel’s or Dr. Head’s attention for swift resolution.

Diversity

We fully endorse, support and actively work to foster diversity in our laboratory. As such, we ask that you be kind, tolerant and accepting of each other. We each may have different cultural and/or religious activities and we hope that you can inform us of important days/holidays where we can respect your need for time off.

Verbal Communication

Communication is critical and key to the success of a healthy and productive laboratory. We ask that you provide space and time to listen to each other, to provide each other with honest and transparent feedback, to ask each other for help when required and to offer help when you see someone in need. In discussions about research (or other topics) there may be times that you do not agree with each other – be respectful of this. If a disagreement cannot be resolved and it interferes with your ability to be happy and productive, and you cannot resolve this yourself, we encourage you to reach out to us for help.

Written Communication

As we mentioned before, communication is key to a successful scientist and laboratory. We mainly use Slack and email as primary and secondary communications. If you haven’t received your invitation to join Slack, please ask Gabriel or Jesse ASAP. We highly recommend that you check both regularly and acknowledge any emails received, especially from Dr. Head or Gabriel. **Note:** Try to keep lab-related Slack communications to standard work hours (i.e., 9–5) but fun channels are free for all. Dr. Head may respond or make requests outside of hours – please know that she does not expect you to respond at those times and the next working day is perfectly appropriate. If there is an urgent issue, she or Gabriel will mark the message as such. For highly urgent and immediate communications like emergencies, use of text messages is recommended. If an emergency arises, use the contact list to reach out to your mentor, Gabriel or Dr. Head.

We also maintain a shared drive (ask Gabriel how to access) where we keep all our SOPs, inventories, important documents and data. Please make sure to check those regularly. The main SOPs used in the lab will be collated, and people may branch their personal protocols as needed and with approval from Dr. Head. (E.g., “SOP 5 – IHC” is the main protocol, and you may branch it with your initials to “SOP 5EH – IHC” so that we may distinguish what is the main protocol and what has been modified to suit your experimental needs.

Time Management

Time management is challenging, it is not necessarily a natural skill and is one that you can build while being a member of the team. This is a topic that no one gets perfect; however, here are some guiding principles: We ask that you keep a list of tasks/projects and deadlines (e.g., manuscript preparation, grant preparation, collaborations with other laboratories, etc). Please allow sufficient lead time with final drafts (**at least one week prior to the deadline**) for Dr. Head, or your mentors to review your work. Prioritizing these tasks is the first step in good time management. If you are unsure which tasks should be your top priorities, please don't guess, ask your mentor, Gabriel or Dr. Head. Sometimes priorities fluctuate and it is incredibly helpful for all of us to touch base regularly to make sure progress is being made. We believe that working late and working weekends is not necessary with careful planning. (We understand if your excitement for your project inspires you to work extra hours but please be aware of your work/life balance.) For those in charge of projects, please prepare a quarterly report of any chemicals/reagents, etc that you may need so that the laboratory manager and staff may have adequate lead time to inventory and obtain these needed supplies. Distribution of material has been incredibly slow due to and even after the COVID-19 pandemic, so expect long delays.

Laboratory Meetings

Our lab meets weekly for approximately one hour, and we expect that you will attend. At these meetings, we have the opportunity to discuss our projects, challenges, solicit troubleshooting ideas, plan our next projects and take time to appreciate successes. We split our meeting time with two presenters, or sometimes only one presenter (for those who have a lot of data and hope to publish soon!). For two presenter formats, be prepared to provide a 20-minute update of your highest priority project and leave 10-minutes for feedback. Constructive feedback, suggestions and any help is greatly appreciated. Science can be a messy and formative process. Sometimes in our own excitement we may narrow our focus. Our lab mates are here to strengthen our work and provide new perspectives – better here with friends than criticism from Reviewer 2 after you have submitted your research paper! This is a great time to solicit all forms of feedback, and to confirm and clarify priorities with Dr. Head and Gabriel. For undergrads who are unable to attend regular meetings, we expect a quarterly report detailing work in the lab – this will cement writing skills and jumpstart any abstract writing or UROP presentations! This will also help solidify your sense of contribution to the lab. You should give front-end communication of major deadlines on a quarterly basis so that we can support you in your progress.

Journal Club

We will hold a journal club once a month with each lab member being assigned a 20-min time slot to present. The basis for the paper selection may be related to a project you are working on, or you may have seen an interesting new research article that you would like to discuss. The choice of paper will need to be confirmed with your mentors (undergrads only) and shared with the team at least one week in advance to give people a chance to read the paper. A PowerPoint presentation of the paper is required, and we also ask that you include both the paper and slides on our shared drive.

Team Leadership – Postdocs/Grad Students/Staff

We have many projects ongoing in the laboratory that are driven either by existing funding, preparation for future funding or collaboration. We will ensure that for each project, a lead person is required to take ownership and ensure that goals are being met in a timely manner and that the quality of the data is impeccable. If it is not clear who that lead person is – we cannot stress enough – please talk to Dr. Head or Gabriel to make sure that this is clear. This will be critical for the health of our lab and also with the preparation of abstracts and manuscripts. We will strive to provide leadership training when feasible or encourage lab members to attend workshops to build leadership skills.

If you are a leader or supervisor, it is your responsibility to delegate tasks for your project and to ask for help as the situation calls for it. As a leader or supervisor, you are also a role model for your mentees and their actions may reflect your teaching styles – as such we expect a high standard and attention to care for what is and is not appropriate behavior in the lab. Any concerns you may have, please escalate to Dr. Head or Gabriel ASAP so that a swift resolution may be reached. Refer to the sections on Time Management, Verbal Communication and Lab Culture.

Abstract, Conference and Manuscript Authorship

Publishing our research data is one of the main goals of our laboratory. We recognize that the amount of work required to gather all the data for a paper requires a team approach; however, each team will have a designated leader for a project who is expected to ensure that the study moves forward. When it comes time for writing abstracts and manuscripts, we recognize that not everyone has the expertise to write research papers (and may prefer not to write them). Authorship order is important to discuss early in the project. The senior/corresponding author of the paper will be Dr. Head. The first author is typically the person who takes the lead on gathering the data and/or writing the paper. Second authors are up to the senior author and represent those that have made significant contributions to the research. It is crucial that there is a clear, transparent and objective approach taken when first authors are communicating authorship to the senior author. We will ensure that there is open communication and discussion so that everyone's expectations are being met. Please also recognize that sometimes a paper may not evolve from a project or that the timeline to a paper from the start of a project is very long (i.e., years).

Sometimes projects may be continued by another lead as people move on to new opportunities. During these times, we will discuss continuity of the project and a re-evaluation of authorship as the project evolves. If a project has a new lead, it is incredibly important to acknowledge the efforts and contributions of previous people who may have provided the foundation for these projects. Failure to acknowledge and to unethically claim the work as your own will be met with severe consequences based on guidelines of plagiarism. For new additions to the lab who are joining a project that is close to completion, authorship may vary depending on the level of contributions from time of joining to time of publication – sometimes this may instead result in an acknowledgement at the end of the paper. We cannot make any promises about authorship on paper(s), but we will make a good faith effort.

There may be times when you will be presenting the data of someone else as a first author; however, this needs to be clarified in advance with the authors. For undergraduate students who are presenting for their conferences, it is important that your abstract is approved by both your mentor and Dr. Head before submitting. Please see the [Time Management Section](#) for more details.

Conference/Workshop Attendance

We will have opportunities to present our data either as talks or poster presentations. We will ask that our team participates in on-campus conferences that allow us to highlight our research. This may involve preparing an abstract and a poster. We recognize this may be new for some of our team, and we will help in all aspects of this activity.

Outreach & Community Engagement

Our research program is dedicated to helping people with Down Syndrome age gracefully by preventing or treating Alzheimer’s Disease. The lab will be engaged in several community outreach activities and also potentially provide lab tours to families and volunteers. We see this as a fun and engaging part of our lab, but we also recognize that not everyone is entirely comfortable with this. Thus, we ask that you participate as much as you feel comfortable doing and please let Dr. Head or Gabriel know how much or little you would like to participate in these activities. E.g., we have Buddy Walk and the Alzheimer’s Walk that occur after hours. We do not require or ask for you to participate, but we will be delighted if you would like to!

Personal Life & Work/Life Balance

Research is stressful. Graduate school is stressful. Life, in general, is stressful. We would like to have a work/study environment that is fun to be in, helps you feel productive and confident, and where you can grow in. You will get sick; you will have bad days; you will have outside obligations that require time off and self-care. We ask that you talk with us if you are overwhelmed, need support or if you just need us to know that things are tough for you at the moment (and you do not need to provide details if you would prefer not to).