

BISSON LAB MANUAL

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- **Version 7: July 2026**
 - **annual hygienization (rewording and text clarity)**
 - **updating expectations to reflect lab growth and team stage, and transition to IU**
 - **inclusion of specifics on Slack, individual and team meetings**
 - **highlight deficient/lacking sections needing rework with the lab**

This is a work in progress. I ask everyone to re-read and sign it before our yearly IDP at the beginning of the academic year.

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MENTORSHIP STATEMENT

*Mentorship is the cornerstone for the progression of nascent scientific fields. I aim to mentor new investigators on **intellectual freedom and ownership, interdisciplinarity, and curiosity-driven science**. I expect our lab to train a future generation of academic leaders who will contribute to the growth of the archaeal cell biology field.*

The archaeal field has a limited source of published materials for cell biologists. Many cultivated archaeal species have never been imaged under a microscope. Hence, our lab spends significant effort **developing new methods** or adapting protocols from other fields. Our scientists are trained to manage their effort to **advance in tool development as much as in biology**. Our group consistently studies the details of cellular processes from different organisms, from bacteria to animals. Most of our best insights come from overlooked articles on different models and fields.

One of the pillars of my mentorship program is a rigorous and quantitative-driven experimental design **focused on falsifiable hypotheses rather than confirmatory narratives**. This has organically created diverse projects encompassing genetics, organismal development, evo-devo mechanobiology, structural biology, eco-cell biology, and bioengineering. Our group fosters diverse intellectual backgrounds from soft-matter physicists, molecular and cell biologists, bioinformaticians, and engineers fostering diverse intellectual backgrounds.

But how does our mentorship approach help to build our research culture? Especially in an interdisciplinary lab? There are as infinite ways to succeed through personal growth as there are life paths. However, it is believed by some that spiritual evolution (which, for the sake of context, we can understand here as intellectual development):

"By three methods we may learn wisdom: First, by reflection, which is noblest; second, by imitation, which is easiest; and third, by experience, which is the bitterest."

Derivative of Bushido (apocryphal), attributed to Confucius by Rev. James Wood in his 1893 Dictionary of Quotations ([Warp, Weft, and Way](#), a blog run by academic Chinese philosophers).

All 3 paths require individual commitment and effort (*you can lead a horse to water, but you can't make him drink*):

- **Reflection, the ownself mentorship.** We grow and learn when trying to solve a problem on our own. Some examples: remove yourself from the lab (to read, write a paper, etc); physically exercise (jogging, gym etc); express through creative art (music, painting, etc); meditation or simply contemplative activities (showers and home chores are usually a great source of breakthroughs!). Reflection is seen as the easiest way to improve because it leverages what's best in your individual qualities to build self-awareness and ownership of your trajectory. Introspection helps develop awareness of your thoughts and intentions, and

it practices the recognition of patterns. It's not hard to see how this approach is expected (but rarely rationalized systematically) in academic research.

- **Experience, the painful mentorship.** Research can be so exciting, but so painful at the same time. Most scientific methods make use of the trial-and-error approach. It is normal to feel lost when you are trying to find yourself through sequential failures. The earlier you embrace and learn from them, the fastest you will grow.
- **Imitation, the peer mentorship.** The standard way we structure and expect to grow in a (formal and informal) mentor-mentee structure in academia. This is usually seen as the most direct pathway for short-term growth. Not a coincidence that so much weight is put on imitation during scientific training periods (*honestly, we never stop being trainees*). Spending time with and learning from friends, colleagues and mentors is a form of learning how to communicate ideas using words with clear meaning.

Our lab believes that peer mentorship is the best way to become a better scientist. Formal mentorship (for example, Alex in the lab) is not a requirement or establishes a mentorship relationship. Instead, it only provides operational structure to create opportunities for you to identify mentors. Interestingly, the process of identifying and establishing peer mentorship requires you to exercise reflection. Ideally, you joined our lab because you understand I and others are fit to serve as mentors, and I understand that I can fulfill this role. The same happens the other way around: I have things to learn from you and I am looking forward to having you as my mentor as well.

Our lab values one important principle to foster mentorship and growth: **acceptance of others as mentors and mentees** through **active intellectual exchange in the lab**. You will not learn or teach new things if you do not identify specific traits/qualities/skills you wish to emulate from others. To do that, you need to be **physically, mentally, and socially present** in the lab.

Therefore, **questions about your project, thesis, and data should be always welcome**. Each lab member retains complete ownership of their work. However, **every lab member is expected to contribute intellectually to all other projects in the group**, either formally during lab meetings or informally while working together. **Everyone must know the details of what others are working on**, and understand the intersections between the projects in the lab. Transparency is crucial for both productive collaboration and scientific progress. We see **respectful criticism** and the **conflict of ideas** as key to meaningful scientific advance:

"Politeness, Francis Crick said over the BBC at the time he got the Nobel prize, is the poison of all good collaboration in science. The soul of collaboration is perfect candor, if rudeness is needed. Its prerequisite is parity of standing in science, for if one figure is too much senior to the other, that's when the serpent politeness creeps in. A good scientist values criticism almost as highly as friendship; no, in science, criticism is the height and measure of friendship. The collaborator points out the obvious, with due impatience. The collaborator stops the nonsense".

Clifton and Nelson (1992)

Finally, if you are not in the lab, I will not be able to contribute to your growth as much. **Most of my scientific discussions with lab members happen in the lab**, where I continue running my experiments and training my group individually when necessary (especially in the microscope room). By offering **technical and intellectual support**, rather than a project manager, I can continue to be current in our day-to-day research, having a realistic ground on what we can and cannot accomplish in the short and long term. I see myself neither as a micro- nor a macro-manager, but as a **hands-on leader**.

WELCOME AND LAB CORE VALUES

This complements our [lab-core values](#). For more specific information on day-to-day expectations, please see "Specific Expectations for Lab Members."

As simple as it gets, I mainly care about three things:

PASSION FOR SCIENCE: Your **happiness** should match your **enthusiasm for science**. Positivity is contagious, and I want to recruit people who are excited about their research, work hard, and see this job as a privilege to be adventurous. Read widely and **be a curious mind!**

COLLEGIALITY: Having a lab culture where people are good citizens, kind, and support one another is the key to being happy, excited, and working hard at the same time. This includes being physically present during lab meetings and other official lab activities to support each other.

INTELLECTUAL HONESTY: being **transparent** and **direct** with myself and others. Being **trustworthy** and **reliable**. Take ownership of your mistakes and **be kind** to others when they make their own.

Things I do not care about:

PEDIGREE: Your CV, schools, grades, fancy places you worked in, etc., do not matter. **You are important**, not the label you may carry. You will have my respect by sharing love for science and dedication. That's all you need for it.

WORKING SCHEDULE: What times do you decide to work (evenings, mornings, etc.)? As long as you are productive and can integrate into the lab culture (discuss science openly and be present during lab meetings), it will be challenging if you only work between 11 p.m. and 8 a.m.

SPECIFIC PROJECTS: As long as we discuss it, I will support your passion. I am a curious person and excited about many things. Approaches are just tools.

I wish our lab could be an environment where we engage in fun science, explore our curiosity, and feel supported. There are several systemic academic issues (and I will discuss them), but it is also a unique moment in our lives. We get paid to do what we love (!!!) and decide to study nature's secrets and bond with each other in a loose and informal environment.

At the same time, we are professional scientists; we mainly rely on taxpayer funds. Therefore, we must deliver the highest level of research on time. I want us to be one of the best groups in the field. Do you know when you go to a talk and leave astonished by the kind of science they are doing? That should be us. **Taking pride in our work elevates the group spirit and motivates us to strive for greater heights.**

As a result, I expect people to work hard. **HARD**. I suggest you face this period as a once-in-a-lifetime opportunity. You will never be young and full of energy to do this again. And **taking pride in being good** at what you do is the best feeling in the world. While hard work **does not guarantee success**, most successful scientists work many hours. Therefore, hard work is often a requirement for success. If you are not making progress in your project, we will discuss whether working harder will help you break through.

As importantly, I value your physical and mental health. My job is to ensure you receive sufficient downtime and rest, including annual vacations. **I have done it to others in the past, and I may force you to take your vacations!** You should combine short breaks with extended periods off to help you disconnect and recharge.

I expect the above conduct from everyone, from undergrads to senior researchers. Being young and inexperienced does not prevent you from satisfying my expectations. I expect maturity and commitment from each of you, and I offer my unconditional support to all of you. Undergraduates will have similar opportunities and be considered and respected as capable scientists, as long as they take their jobs seriously and show impressive and continuous development.

EXPECTATIONS

Group Meetings: Weekly group meetings include data presentations, a journal club (which includes preprints, for which we provide lab comments to the authors), workshops where we teach each other new approaches and techniques, and communication exercises such as practice talks and elevator pitches. Please refrain from scheduling events (including experiments and brief departures) during our regular group meeting time. Please let me know in advance (both in the lab calendar and verbally/slack) if you are unable to attend a group meeting. Group Meeting [Expectations](#) and [Schedule](#) can be accessed here.

1:1 Meetings: You will meet with Alex ideally every other week, and possibly more frequently. I expect you to send me a short [Meeting Summary](#) with access to raw data ~2 days before the meeting. However, I am frequently available for quick check-ins and informal sci-chats. **I love to talk about science.** Sometimes, I request individual meetings if we need to refine specific experiments, discuss improvements in work ethics, or intensify our focus on a particular paper.

Annual Lab Cleanup: This will be a full-day event held once a year. It's the only time our lab gets scrubbed and cleaned, and everybody must participate. We usually do this in the first week of the year. Please do not schedule experiments that day. Alex will take the lab out for dinner and drinks afterward.

LAB JOBS: Each lab member will be assigned a specific Lab Czar. That means you're entirely responsible for a vital role in the lab function. More experienced and full-time lab members will naturally be in charge of duties essential to the lab (like microscope training/maintenance, digital and physical collection organization, media prep schedule, etc.). Other lab members will still be responsible for keeping specific lab areas (like gel bench, media prep, lab meeting schedule, lab social events, etc.). Lab jobs are continuously discussed at every group meeting, but new Lab Czars are reassigned accordingly every semester/year. A list of duty assignments can be found [here](#).

SEMINARS: Our job is not just conducting experiments, but also communicating their results to others. That is equally important as doing the work. The more you know about what everyone is doing, the better off you are. Your world will grow, and your science will be better. I recommend that lab members attend seminars, depending on their interests and schedules, and whether they are required by their program (e.g., Ph.D. program or training grant). I will help you decide which talks interest you until you understand which talks to attend. However, please do not overfill your schedule with seminars. All this knowledge will be useless to your career if you do not produce science yourself, and producing science requires a significant amount of research time in the lab.

I have basic **professional expectations** for work in my lab, as well as basic **human expectations** that all lab members maintain a life outside the lab and that significant life events, health issues, and other personal matters will arise while working here. To ensure that these expectations do not conflict, I am very flexible about many aspects of work in the lab. I established general policies to ensure that this flexibility is not abused.

First, scientists can and should set their hours. Suppose you are a full-time member of the lab and

find yourself in the lab (doing experiments or analyzing data) on average less than 40 hours a week for any significant number of weeks. In that case, **you are not meeting full-time expectations**. Once again, this is a minimum, and most successful scientists put in more time than that (either in the lab or remotely) to maintain their momentum. **What I care about is keeping productivity/momentum, love and pride in your work**. How should you distribute your work time? It is primarily up to you how to use your time to stay productive, but if you find yourself spending much of your work time in seminars, service, teaching, classes, socializing, or other activities (all of which are important), and forward movement on your project is suffering, then we will have a meeting about how to distribute your time more effectively. In those cases, I recommend that you share a calendar with me where you organize your weekly activities. This will help us determine why you have not yet been productive.

WEEKENDS AND HOLIDAYS. I do not expect you to be regularly in the lab on weekends and holidays, but we all know sometimes we need to work on some of them. Sometimes, you will need to plan to come in to start cultures so you can be productive during the week. It is not okay to waste one or two days during the week because you didn't plan to spend 30 minutes in the lab during the weekend/holiday. A smart move is to **organize rotations among lab members** so that only one or two of you need to come in at a time. We have a very active Slack Workspace. **Take initiative and communicate.**

VACATION AND REST TIME ARE ESSENTIAL. I strongly encourage lab members to prioritize downtime, time spent with friends and family, and non-work-related interests. In general:

- Please let Alex know when you will be taking a day off as early as possible. **If you're planning on taking 3+ sequential days off you need to communicate this at least 2 weeks in advance.**
- Lab members have **25 days off per year** (compared to IU's official 22 days). These days do not include official IU's holidays, **but they do include personal and sick days**. I can make exceptions and provide extensions, especially for international students who need more time away, but you must be **productive**.
- Undergrads have more autonomy, but **you must let Alex or your supervisor know in advance (~1-2 months)** before taking extensive time off. We rely on tech work, especially if you are working as a tech in the lab, and it's not fair to create a massive disturbance when we can prepare for your vacations ahead of time.
- Log your absence in the Bisson Lab Calendar: whatever the reason, please add "out of office" or "OOO". I usually do not track these numbers unless there is evident abuse of the policy.
- While we all go through unlucky periods where we catch a streak of sick days, I expect lab members to be self-aware of the impact your absence creates to your project and to others in the lab. People will have to cover your lab jobs, but also miss out on your expertise and intellectual contribution. This is not supposed to make you feel guilty but to encourage action. There are many ways to make up for our absences. Self-awareness means that you understand your responsibility to our group and step up without being

asked to.

- Lab members can sporadically work from home (WFH), but this should not become an issue for the lab (e.g. performing lab jobs, discussing science and training other lab members). You will be expected to be connected and active on our Slack channel. You will be asked to show what you have been working on while away.
- The only things every one of us are entitled to are kindness and respect. **Everything that exists in society was created and maintained by someone.** Make sure you contribute more than receive from others. That is the only way to avoid burnout and foster happy, healthy creative minds in the lab.

MEDICAL AND OTHER EXTENDED LEAVE. Please notify me as soon as possible if you plan to leave the lab for more than a regular vacation (e.g., parental leave, other long-term leave, or permanent departure). For parental leave, refer to IU College of Arts and Sciences official policies for [students](#) and [staff scientists](#). For other short and extended medical leave, refer to IU's guidelines for [students](#) and [staff scientists](#). Formally, I require notice at least four weeks in advance, but knowing earlier than this helps me **(1)** prepare for wrapping up or supporting your project in your absence, **(2)** manage the lab budget, and **(3)** help you with your career planning.

HEALTH (INCLUDING MENTAL HEALTH). Our lab is a place where people can have fun while conducting their science. I strongly encourage everyone in the lab to prioritize self-care and support one another. Please let me know ASAP if anything is preventing you from thriving and if you need to make any changes related to your lab work. I can only help you work through these changes if you need help. **PLEASE ALSO KNOW THAT I AM A MANDATORY REPORTER TO THE UNIVERSITY FOR TITLE IX CONCERNS.** I will speak with the appropriate University personnel if I feel someone in the lab is in danger.

SPECIFIC EXPECTATIONS

POSTDOCS AND STAFF SCIENTISTS

I expect postdocs and staff scientists to become **"Pls in the lab"**. This involves taking intellectual ownership of your projects, making significant progress, maintaining and developing the lab infrastructure, **and supporting other trainees and scientists.** Seniority scales with responsibility and my expectation that you will do more than carrying your own weight. Generosity and leadership are anticipated from everyone in the group, **but mandatory for postdocs and staff.** I appreciate the challenge of keeping up your momentum with mentoring students, but I trust you will rise to the occasion - that's why I decided to hire you!

First, the lab usually deals with contracts that range, depending on funding, between **one and two years (for postdocs) and one year (staff).** **After this point, all contracts will be considered for renewal annually based on performance and funding.** Exceptions will be discussed in detail, including the requirements for international scholars who require a visa. **The first year of the contract** will be structured in the following way:

- **The 3rd month (acclimation).** This will be considered a period of adaptation, during which you will master the literature and receive intellectual and technical training from multiple lab

members to become an integral part of the group. By the end of this period, **you will become productive and progress to independence**. This doesn't mean you will have a multitude of solid results and data. However, this is the period you will have to demonstrate your potential as a valuable lab member and scientist. By the end of this period, we will meet for a formal 1-1 evaluation to appraise your performance based on items listed on **page 19**. Depending on each case, we may leave with a clear path for improvement in the next quarter.

- **The 6th month (checkpoint)**.. Depending on the 3-month evaluation, this period could become probationary, where we should aim to correct the course so progress can be made in the second half of the contract. Again, we will meet 1-1 for a formal evaluation. In case of persistent underperformance, we can continue to troubleshoot the possible causes of the issues preventing you from advance/contribute. Alternatively, you could understand that this position is not serving your career progression as supposed. In this case, we will pivot to a different, more focused role in the lab that allows us to work together to secure your next position based on your career goals. From this point, we should create a document with clear responsibilities and how to use your time inside and outside lab affairs. I will actively engage in discussions to identify opportunities and support you during this period.
- **The 9th month (definition)**. After this point, for those under one-year appointments, this is the moment I will evaluate whether your contract will be renewed or we will pivot to a final three-month plan before your leave. In case of visible improvement, the contract will be renewed and we will perform evaluations every 6 months from this point on. For those with two or more years in their contracts, even though I will honor the commitment without reservations, we will still have to find a suitable solution that satisfies both parts.

That being said, I aim to be a very reasonable and understanding person. Life is unpredictable, and science can be even more. However, we all need to show improvement and self-awareness. My commitment to you is full transparency during evaluations. Your best chance is to also be honest and communicate openly with me so I can help you to the best of my ability.

I welcome you to discuss your career goals with me at any time, but at least once a year during our IDP meeting (**see pag. 19**). While it's OK to change your plans, it would be silly not to disclose, for example, that you have no intention of staying in academia just because you feel you will no longer commit to it. We are here to make discoveries together, and it is my job as a mentor to support your career.

Successful postdocs usually stay between three and five years. Longer periods are possible, even though the nature of the position will certainly change to incorporate more leadership and mentorship responsibilities. On another hand, staff scientists represent a more heterogeneous class, so their tenure will drastically vary across the board.

PHD CANDIDATES.

Grad students are responsible for their projects/theses. I expect them to master their field as much as I (or more). That requires reading papers, thinking deeply and critically about the relevance of your

questions (avoid autopilot), and maintaining a high-intensity lab routine. In the many years I've been around, **these are the main (usually interrelated) traps I see grad students fall into:**

- a) Act as if they are still college students:
 - i) Expect PIs to drive them to the final lap
 - ii) Treat classes/grades/TA as their priority (spoiler alert, nobody cares about it anymore)
 - iii) spend significant time in seminars and courses/workshops
 - iv) They can continue "studying for the test the night before." **Nature does not care how smart you are; archaea is salty, bossy, and demands devotion.**
- b) You can always finish everything in the last year ("Look at my beautiful plan of how I will do one successful experiment every day for the next six months").
- c) Do not communicate honestly with your advisor about expectations.

As our mentor-mentee relationship develops, please let me know if my expectations about you still need clarification. I will meet 1-1 with you for IDPs and performance evaluations once a year before your thesis committee meeting.

While I will actively help trainees with analytics, graphic, oral, and writing skills, I expect PhD candidates to write their own exam proposals, papers, and theses. This is important for developing skills and intellectual independence.

I expect you to graduate by the end of your fourth or fifth year. In (rare) exceptional cases, I will make a plan with you to get you out by your sixth year.

PhD Rotation Students

The goal for rotation students in our lab is to:

- 1) *Learn new cool experimental techniques*
- 2) *Understand our research and how we do science*
- 3) *Know Alex as an advisor and the lab culture to assess fitness*
- 4) *Get Alex and the lab to know you and to assess fitness*
- 5) *Think about projects in case you plan to join our lab*

Rotations begin with a lab meeting, where every lab member (sometimes even Alex) presents a 10-minute chalk talk about their project and their vision for the next two months. After that, the rotation student will discuss details with every lab member to understand how to do a rotation with them. Finally, the student and Alex will sit down by the end of the first week and discuss which project they should continue with and who would be their best mentor.

All rotation students will present their rotation projects in their last group meeting. Any senior lab member can mentor rotation students. Please respect your mentor's time by communicating clearly about your schedule, arriving at previously agreed-upon times, and completing your rotation report

and presentation with plenty of time to receive their feedback. Here are some [tips for rotation students](#) on how to allocate their time as a first-year graduate student.

Research rotations are opportunities for potential new students to become familiar with the research questions and techniques used in the lab, learn about the lab culture and environment, and get to know Alex as a mentor. They are also the foremost opportunity we have to evaluate whether you will be a positive addition to the lab, to identify areas where you need to grow, and to determine if you are willing and able to put in the work required to improve yourself while conducting rigorous and exciting science. I will ask everybody in the lab for their thoughts on potential new lab members using the following specific questions:

- *Did the person put in the hours they had committed to/were required to do so?*
- *Were they focused while at work? What was their strategy for dealing with distraction?*
- *Was their work careful, and did they take pride in their product, including the rotation talk?*
- *How did they react in the face of failed experiments? How do they manifest frustration?*
- *Did the person retain the information that was shared with them?*
- *How likely would this person have made progress in the project if given another two months?*
- *Did they treat other lab members with respect and kindness?*
- *Nonetheless, did they seek scientific debates with confrontation*
- *Does the person ask questions to test their understanding (of techniques and concepts)?*
- *Did the person demonstrate the desire/ability to own the project?*
- *Was the person able to interpret their results?*
- *Did the person think through the future steps of the project?*

Potential as an archaeologist: This point is way more complicated to explain in words, but it is usually evident to all parties at the end of the rotation. Fitness is not just a matter of identification with mentors and lab personnel. Our research is placed in the context of a (vibrant) young field working at the cutting edge of emergent model systems. This often means finding the answers and protocols, often without any reference in the literature to follow. We continually develop and refine our approaches and methods. This requires a particular profile of a person, along with excitement/passion for challenges. Because of our "curiosity-driven" research motto, I will seriously consider whether someone would be a good fit if they didn't explore beyond the narrow scope of their rotation project. Some students thrive in more structured, focused and largely overlapped projects. That is the price we pay for allowing our scientists to pursue their intellectual passions instead of having Alex serve boilerplate projects. Our lab carefully approaches this question to ensure that our unconscious biases and "comfort zone" don't work against people who are different from us. You will notice that we are a diverse group in terms of demographics and scientific backgrounds.

Undergraduates

New undergraduates in the lab typically begin by doing technical work. Students who show dedication, curiosity, and careful work in these tasks may be invited to undertake increasing research responsibilities and, eventually, a project. More senior lab members will mentor undergraduates doing

research - please respect your mentor's time by communicating clearly about your schedule, coming in at previously agreed-upon times, and completing any reports, fellowship submissions, posters, and presentations with plenty of time (at least a week) to get their feedback.

Our decision on whether you can progress from lab tasks to doing research and whether your position will be continued from semester to semester (including a senior honors thesis) depends on your dedication, commitment, and ability to complete and interpret experiments efficiently, carefully, and thoughtfully, and on how much you got done. One of the best ways to get this going is to do full-time research in the summer. Therefore, if you choose not to stay for summer research, you may not be renewed to remain in a research position or do a senior honors thesis.

Summer research is a minimum 10-week commitment. That leaves four weeks, which I encourage you to split between research and vacation. The more full-time work you dedicate to the lab, the more you discover, and the better your undergrad research experience will prepare you for your future.

GETTING STARTED IN THE LAB

Ask someone in the lab (or Alex) to give you access to:

Lab Google Calendars: All meetings (lab and 1-1s with Alex) and equipment are booked using Google Calendar. If you need to schedule a formal meeting with Alex, send him a Slack message and book a time slot after he gives you his green light. Equipments (e.g. microscopes) can also be booked in their own Google Calendar.

Slack Channel: Alex receives, on average, more than 50 emails every day. He will only discuss lab topics through Slack to prioritize the lab's needs. This way, all scientific/management content is concentrated in one platform and not scattered across his chaotic inbox. Lab members are expected to communicate through Slack.

Google Drive: Essential lab resource. Lab members are expected to know it by heart. It contains databases, curated online resources, protocols, an ordering sheet, and more.

More importantly, ASK QUESTIONS AND LEARN FROM EVERYONE

CODE OF CONDUCT AND ANTI-HARASSMENT POLICY

Kindness and Respect: Every person in the lab will treat all others with mutual respect and compassion, regardless of position or career stage. Every person will be treated with care and dignity at all times. You should be more direct and honest about each other's data. It's just data. However, the person behind it will be taken seriously, and we should all feel confident enough to speak up if these principles are violated.

Discrimination and harassment: We adhere to IU's [Discrimination, Harassment, and Sexual Misconduct](#), which include a [Code of Student Rights, Responsibilities, & Conduct](#).

It is essential to note that **ALEX IS A MANDATORY REPORTER FOR TITLE IX** when performing his duties as a Brandeis Faculty member.

Conferences and Travel Policy

Postdoctoral scholars and graduate students should expect and be encouraged to attend external meetings/courses, depending on their productivity (as detailed below). You will identify/take the steps necessary to access any available travel funding (e.g., your individual fellowship, training grants, departmental funds, or scholarship provided by the meeting/course) **AT THE TIME OF REGISTRATION**.

I am generally in favor of having people attend meetings that will bring new knowledge and networking opportunities to both the individual and the lab. However, I expect people to be in shape to represent the lab. That means you must present posters and give talks on your project. If you do not have enough data or are not making progress in your project, you should spend this time in the lab instead — your poster/talk needs to have at least an **OUTLINED STORY WITH DATA**.

The lab will generally cover expenses required to attend a meeting following [IU's Travel Policy](#).

We will not cover "extras" such as lengthy airport parking, ground transportation, or, extra days spent at the meeting location (these will count as personal days/vacations), a more convenient hotel, or additional fees for registering late **unless we have explicitly discussed it beforehand**. When possible, purchase flights and hotels on the lab P-card. I understand that lab members may be unable to afford waiting for personal reimbursement, and I will do everything I can to cover the costs directly.

OPEN SCIENCE AND DATA POLICY

The best and most rigorous science is open science. Our policy is to discuss every step of experimental design, execution, analysis, data management, and interpretation in the lab and group meetings. This extends to manuscript and grant writing, which are widely shared with the entire lab (not just the authors) at every stage of development. I welcome constructive and critical input on our ideas and writing. [Bisson lab grants, papers, and other project ideas are here](#). Please consult with Alex before sharing any unpublished materials outside the lab.

I am one of the signatories of the [ASAPbio preprint pledge](#), so we will **always** submit manuscripts to preprint servers (like BioRxiv) before publication. Data collected by lab members belongs to the lab. Still, also to the individual lab members, I welcome open discussion about data and project ownership to the individual lab members and ask that any conflicts or issues be raised as soon as possible, with the knowledge that I am committed to an equitable solution.

Open and rigorous science requires careful documentation and data curation. **Papers and preprints will not be submitted without data and resources trackability**—which comprise (but not limited to):

- [Digital Lab Notebooks](#). The lab requires all members to keep copies of project progression and original data, available to the whole team at all times. We use Google Docs for digital notebooks, but we're open to other platforms as long as they're publicly accessible. which should all be updated and stored in the Google Drive folder. Every digital lab notebook should contain direct links to [the raw data](#), which should also be stored in a specific Google Drive folder. That means all data, including microscopy, gel, and plate images, as well as Geneious library software code, etc. Microscopy data must be transferred to Google Drive and our physical server **immediately** after the experiment concludes (note that data stored in computers may be deleted at any time).
- [Geneious Digital Cloning Library](#). Files of stocked plasmid sequences and maps, engineered stocked strain constructs, and ordered synthetic fragments and oligos must be consistently updated in our SQL database **at least once a month**. Once a semester, Alex (or someone in charge) should back it up to Google Drive.
- [Digital Strain, Plasmid, and Oligo Libraries](#). All lab members must have their strains and oligos updates in real time at our google sheet collections. Parallel or unofficial stocks will not be accepted without authorization. **Papers and preprints will not be submitted without strains being present in both physical and digital collections.**
- [Raw Data](#). All files should be transferred immediately after collection (or ASAP) to **both** Google Drive (Data Server/Raw Data) **and** our NAS physics server.

Important Note on Microscopy Data. *Because of the risk of the computer crashing due to excessive data flow, please delete all your data **IMMEDIATELY** after backing it up. Data in the computer's HD older than a month can be mercilessly deleted at any time.*

- [Project Folders](#). All projects (published or in progress) will have a dedicated folder in our Google Drive. Lab members are expected to keep polished data (graphs, figures), analysis (google sheet datasets), materials (methods, software, etc), and all raw data used to generate them. This folder will be used to share manuscripts and data with collaborators as we finalize papers, and will be moved to the “published” folder at the time of acceptance. Because NIH and NSF mandate upload of datasets to public databases (e.g. Github and Zenodo), **preprints and papers will not be submitted without a proper organized project folder.**

DEVELOPMENTAL PLANS AND EVALUATIONS

There are specific ways I assess and improve our performances. Most meetings happen around the same time of the year (~May-June)

INDIVIDUAL PERFORMANCE PLAN (IMP). Unless specified (e.g., postdocs and staff scientists in their first year), I will discuss everyone's individual performance by the end of each academic year. During a 1-1 meeting, we will use a simple IMP FORM to guide our discussion. Alex will fill the form and share it with you a few days prior to the meeting. The focus is to have a **direct and clear report of Alex's evaluation of your performance** and whether you are **meeting expectations**. Depending on the circumstances, you and Alex will discuss a **management action plan** that outlines specific and concrete steps for improvement. In this case, we will have another IMP meeting in the following 3-6 months.

INDIVIDUAL DEVELOPMENTAL PLAN (IDP). The goal of the IDP is to help you to structure your thoughts about your development and performance according to **YOUR CAREER GOALS**. It allows Alex to understand how he can support you in planning your next steps to accomplish them. The goal here is not to evaluate performance, but to plan your short- and long-term professional goals. Lab members can also use their monthly meeting summary (under "What do I need from Alex?") to discuss their career plans.

<https://docs.google.com/document/d/1NMrRkJm88Oh4Q8ht8ITarAcOkKqkEGE9VuatJDQ7fnI/edit?usp=sharing>

GROUP LEADER EVALUATION (GLEE). The lab meets (excluding Alex) to discuss Alex's performance as a **leader, manager, mentor, and scientist**, as well as actionable items for improvement. To preserve confidentiality, a different person is elected every year as a "peace emissary", responsible for taking notes and discussing the report with me for clarification. Feel free to be 100% honest and direct, but please be **clear** and **specific**. You may disagree about how Alex should act/improve as a manager, but it's essential to talk about it. This allows Alex to clarify (during the **SOL** meeting, see below) why he runs the lab in that way or to identify areas that could be changed to help you succeed.

LINK TBD

STATE OF THE LAB (SOL). Once a year, Alex will deliver a lecture to put the history of the lab and the team's past year's accomplishments into context:

- Give new lab members an idea of how the lab has developed since 2019 until that point
- Honor past members and their contributions, so we can be there doing the science we love
- Review the past year of work and celebrate our accomplishments
- Alex's plan for the next year and the lab's long-term intellectual and research vision.
- Address any substantial issues from GLEE.

LINK TBD

SAFETY AND PROCEDURES

The lab needs to pass through two inspections at least once a year. While there is always someone in the lab responsible for keeping us compliant, the whole lab is expected to contribute. We have a manual that explains the details **here**.