

Introduction

These guidelines are written with the purpose of setting a standard for ethical and collaborative conduct in our lab. It is meant to be explicit in cultivating a diverse, inclusive, and equitable lab culture that fosters social support¹ and a sense of belonging for everyone. In a sense, it serves as a contract. By joining the lab, you assert that your values pertaining to work environment and behavior are aligned with ours, and you agree to abide by these guidelines. The original formulation of this document was assembled by the principle investigator (PI), with inspiration drawn in large part from Dr. Max Liboiron, Dr. Beronda Montgomery, SACNAS and collaborative discussion with Dr. Daniela Palmer, Dr. Yan Wang, Dr. Sama Ahmed, and Dr. Shane Dubay. That said, this is a living document. As the lab continues to grow, we want input from all lab members to continuously be incorporated.

Academia has been and is becoming increasingly hyper-individualistic, overly competitive, and exploitative. In addition to these issues, biology – and evolutionary biology in particular – has its own long-held biases with contemporary ramifications. It is a discipline that has been used to rationalize racism, sex and gender discrimination, and eugenics. Sometimes, these arguments reappear in contemporary literature, including peer-reviewed works. These realities undermine healthy work environments based in diversity, equity, and inclusion. To overcome ingrained cultural attitudes and bias, we must be intentional. This is the context for why this lab book is necessary.

In line with this ideal, there will be zero tolerance for discrimination, exploitation or bullying of, or by, any member of this lab. Any sustained behavior involving mistreatment of another person, including but not limited to discrimination based in racism, sexism, ableism, homophobia, transphobia, or religion will result in dismissal from the lab at minimum and from the program at maximum. This kind of conduct is directly contrary to our values and undermines the ethical and collaborative practice of science. Please review and revisit the guide as necessary to maintain a positive, productive, and safe lab culture. It is not something you need to commit to memory, and it is unlikely you need to read its entirety in one sitting. Read the parts that are relevant to your current needs and as you begin to navigate different roles within the lab.

In this lab group, we respect each other and our **humanity first**. Great science will follow. Be kind, and we will be fine!

Recommended Reading

Lessons from Plants by Dr. Beronda Montgomery

The Slow Professor: Challenging the Culture of Speed in the Academy by Maggie Berg and Barbara K. Seeber²

¹ “Social support is the perception or experience that one is cared about by others, esteemed and valued, and is part of a social network of mutual assistance and obligations.” – Taylor, S.E. “Fostering a Supportive Environment at Work.” *The Psychologist-Manager Journal* 11 (2008): 265-83.

² This book was originally recommended by Dr. Sama Ahmed during a group discussion of lab books.

Statement on Power Differentials

I include this statement because I recognize that there are systemic issues with academic culture and while I am actively fighting against those norms, our lab still operates within the system. One major facet of that is the hierarchical nature of the academy. We may be at different career stages and hold varying levels of experience, but every member of the lab is an equal collaborator in progress. We will **respect** each other as such while we continue to learn and develop professionally. We reject the hierarchical nature of academia that propagates abuse. Instead, we learn from the wisdom and expertise of those who came before us, support and uplift the uninhibited potential of those who come after us.

I, JC Buckner, Ph.D. am the principal investigator serving the IDER lab group. I acknowledge that with this role comes power, influence, and social capital. It is always my intention as an advisor to leverage these to facilitate our research goals, to create and maintain a safe, equitable space to be our whole selves and scientists. I will never willfully abuse the power of my position to harm or manipulate members of our lab group and extended research community. As the P.I., I feel it is my responsibility to uphold our values and take disciplinary action against conduct violations. To the extent possible, I see myself as a buffer between our lab group culture and any systemic issues of the department, college, university, and/or discipline. Outside of this facilitation and responsibility, I consider myself as an equal partner with all other members of the group invested in the lab's success. ***The lab belongs to us, not me.*** My purpose is to work with you and beside you while providing the training, resources and support needed to achieve your goals.

If you have any ideas, needs or concerns pertaining to the content of this document, please get in touch with the PI.

Mission Statement

The IDER lab strives to maintain a safe, collaborative space for the development of leaders in the field of evolutionary biology. Diversity, equity, and inclusion are woven into all aspects of our philosophy. We aim to be creative and innovative in our approach to inclusive teaching and mentoring just as we do with our science. Together, we work proactively to provide a research haven to pursue the science that we are passionate about without diminishing who we are as people.

Lab Values

Our lab values serve as the foundation for how we imagine and implement our science. Those listed below are not exhaustive, but underly important aspects of research practice. They are not distinct; they connect and flow into each other. Upholding one value upholds others. The goal is always to do the best science we can while doing the least (ideally no) harm to ourselves and others.

(Com)Passionate Science. It is our hope that while we contribute to science, we can pursue the questions and research we are **passionate** about. While we are trained in the Western tradition of science, its priorities for research and funding may not reflect the motivations that led us to become a biologist. That is more than ok. Science is about discovery and there are multiple ways of knowing that can be integrated. We appreciate, acknowledge, and celebrate that the Western way is not the single valid approach. Please bring your whole authentic self, the perspectives, **uniqueness, drive, and creativity** that comes with that. We will support you in pursuing your passion, but in that pursuit do not blind yourself to the needs and well-being of others. We look out for each other and are **dedicated** to our own, and each other's success. ***Practice (com)passionate science.***

...when one of us considered an idea or sentence as not working, she was able to say so without crushing the other in the way that peer review often does. The underlying trust and respect made it possible to have an open exchange of ideas: we listened to each other in an attempt to understand rather than to find the weaknesses as we had been trained to do. The result was the same. (Berg and Seeber, 2016, 88)

Collaborative Science. The beauty of science is that it builds upon previous and concurrent discoveries. Despite how they are typically celebrated, great discoveries in science are never the result of a single person's contributions. Collaboration is essential for transformative science. Unfortunately, the work of many people often goes unrecognized, and this disproportionately affects researchers and scientist who identify as BIPOC, gender minorities and global south nationalities. Always be mindful of the people who have contributed to our research success and abundantly express appreciation for that. There are multiple ways to do this, and **communication** is key to fair, effective collaboration. Remember, all contributions are valued, regardless of title or career stage. So, think of our mentees as collaborators, uplift their input and provide constructive feedback to everyone. Thoroughly credit and acknowledge the sources of ideas, data, analysis and every other aspect and stage of research. Discuss co-authorship early, often, and generously with those who work with us. Be **adaptable**, unexpected things can happen through the course of a project that may change priorities and respective responsibilities. We should ask for as much as we are willing to give³. Be supportive of the lab group and our extended research community. While we foster independence, we believe in community-based collegiality

³ This phrasing came from Dr. Shane Dubay during a group discussion of lab books.

and reciprocity over models of success that center the individual. This requires humility: be graceful in our wins and take instruction from our losses. ***Practice collaborative science.***

The practical characteristics of a “well-functioning team” are “asking and giving advice, helping each other out, sharing the workload fairly, knowing each other’s strengths and weaknesses, and trusting each other” (Martela 97). These activities of mutual support depend upon, indeed cannot be separated from, the “emotional dimension” Martela identifies: “respecting each other, sharing emotional burdens, encouraging each other, knowing each other as a person, and solving emotional problems together (97). (Berg and Seeber, 2016, 82)

Ethical Science. The practice of science has the potential to change the world in the best ways, but its malpractice or negligence can have devastating consequences. Humans are by nature imperfect beings, and part of that is holding biases related to our positionality and experiences. This does not magically go away when we act as scientists. Thus, science is political and can never truly be objective. It’s incredibly important then to be aware of our potential biases and practice self-awareness and reflection to minimize the impact of biases on our science. Relatedly, we must always acknowledge the caveats and potential pitfalls of our work to maintain research **integrity**. In our lab, people matter more than the product, always. We must ask ourselves: In what ways can our research practice be helpful or harmful, and what will be the impact (positive or negative) of our research? We will be collaborative, not exploitative. We will be cooperative, not extractive. ***Practice ethical science.***

Safe Science. Science does not come without its safety concerns. We do everything to mitigate the risks to ourselves and others when it comes to research in the field, lab and everywhere in between. In addition to practical measure related to the technical execution of our work (like mandatory trainings), we also must be cognizant of our mental and physical health. Self-care makes for a better scientist. If we maintain good communication and operate in good faith, the work will get done. There is no need to push ourselves to unhealthy limits in the pursuit of science. So, we do not come to work when we are sick as this endangers ourselves and others. We take breaks, including vacations. We insist on work-life balance as an essential part of being a scientist, made possible through **communication, coordination, organization, and responsibility**. Working more than 40hrs/week on average is unnecessary, is unlikely to increase output and can result in more mistakes, including work-related injuries. We prefer a slower deliberate approach that encourages deep thinking, high-quality results, and safety. ***Practice safe science.***

We are all continuously growing and improving. We intentionally incorporate these values into our work, but we may make mistakes. That is ok, if we are willing to learn from them. Remember, ***practice makes perfect.***

Recruitment

How do we make decisions about who will join our lab group? This is an important question because who we recruit, and how, is tied to our values and goals for the lab group and culture. If we want a diverse, equitable and inclusive community, we must be intentional in cultivating that. Candidates are asked to meet with all lab members (in person or virtually), who then provide feedback about their interaction to the PI. The final decision is then made by the PI for two reasons: (1) the PI is ultimately responsible for the experience and success of the potential new lab member and (2) in the (hopefully) unlikely event that the new lab member is toxic to the lab culture, their presence in the lab and dealing with their behavior also falls on the PI and no one else.

Direct Admissions and Rotations (Graduate Students)

The Biology Ph.D. program at UTA currently supports both lab rotations⁴ and direct admissions⁵. The IDER lab is open to supporting both, so talk to the PI about which you would be interested in.

Rotations – During a rotation in the IDER lab, you may learn a technique or even have a deliverable at the end. However, given the short duration of six weeks, the main goal is for students to become acquainted with our research interests, lab culture and mentoring style to decide if the lab is the right fit for them. If nothing else, students can come away with another supportive mentoring relationship.

Direct Admit – These students have been in contact with the PI prior to applying to the program. If we both feel excited about the prospective student moving forward with applying, the PI will support their application and admission to the program.

Advisement

Philosophy

Leaders should be “groundskeepers, not gatekeepers...[this] form of leadership is sense driven and environmentally adaptive; it attends to individuals while at the same time tending the ecosystems in which these individuals exist.” – (Montgomery, 2021)

Lab mentors aim to facilitate mentee goals, regardless of their ultimate career aspirations, by providing unwavering support and positive research experiences. For all mentees, we start by

⁴ Students spend 6 weeks in at least two labs during their first year before committing to one.

⁵ Students immediately commit to a lab upon admission.

designing a dynamic mentoring plan aimed at advancing their professional goals. The lab encourages mentors (and aspiring mentors) to engage with culturally aware practices and to maintain a high level of cross-cultural competence. We facilitate this by curating resources, sponsoring participation in relevant training opportunities as well as engaging with cultural campus events and groups.

Undergraduates. While the PI mentors undergraduates directly, they are encouraged to work closely with graduate students and postdocs to help the latter develop teaching and mentoring skills outside of formal classroom settings. In funding applications, the lab requests funding for paid research opportunities for undergraduates to increase opportunities for underrepresented students that more often need to work while pursuing their degrees. We do not support volunteer positions. ***No one in the lab is allowed to perform uncompensated labor.*** We encourage undergraduates to primarily contribute to or extend established projects in the lab.

Graduates. Graduate students in the lab group are generally interested in examining vertebrate macroevolution leveraging molecular and phylogenetic methods in line with the PI's expertise. Our priority is to foster independent scientists by encouraging original conceptions of projects based on their research interests (PhD students) or extensions of the primary research program (Masters students). Our ideal lab size is roughly 4-5 graduate students so that sufficient time and resources are available for all lab members.

Postdocs. Postdocs contribute to the lab's broader interdisciplinary research program. Any systems or questions in macroevolution are welcome if the PI's expertise can contribute to the proposed research. Strategies for their professional development will be implemented based on their projected career plans. Postdocs are largely independent in terms of research except in aspects where they are learning new skills in the lab.

The lab will always strive to provide funding for members to participate in conferences, professional development workshops, specialized training and other opportunities related to advancing professional goals and research practice grounded in DEI.

Expectations

The IDER lab expects that the PI will: (1) enforce a code of conduct in line with lab values; (2) mediate conflicts among lab members; (3) apply consistently for research funding (4) facilitate professional development; (5) support job search and applications; (6) provide context and reasoning for philosophies; (7) maintain awareness of and share resources, funding and opportunities; (8) keep track of program due dates/milestones; (9) provide guidance on navigating power structures; (10) foster sense of belonging for all lab members.

PI availability statement: The PI will maintain a calendar showing PI availability during on-campus hours. If you need to meet outside of scheduled lab meetings and one-on-ones (see below), but

there is no apparent availability on the calendar, feel free to send a meeting request via email or slack.

The IDER lab expects that mentors (including the PI) will: (1) set the example for practice of lab values; (2) maintain availability for advisement, support, and troubleshooting; (3) maintain privacy/confidentiality as appropriate; (4) maintain transparency about mentoring and research decisions; (5) support academic and non-academic career trajectories.

The IDER lab expects that everyone (mentors and mentees): (1) Put forth your best effort in earnest; (2) communicate – we need to hear your thoughts, ideas, perspectives, concerns (everything!) to improve; (3) maintain the lab space and facilities.

Guests: For the duration of your time in our lab, we expect you to behave in accordance with the guidelines and expectations detailed here-in as appropriate to your role as a mentor and/or mentee.

Working hours. Everyone who is receiving a salary is expected to work ~40 hrs/wk on average. Hourly employees will work on the schedule agreed upon with the PI. Individuals are free to set their own hours and schedules based on their workload, time management and productivity.

Individual Development Plans (IDP)

Every member of the lab is required to meet with the PI to discuss an IDP⁶. The IDP helps set and communicate expectations for both the mentor and the mentee beyond those articulated in this guidebook. The purpose is to make sure that specific individual needs are known and met to the extent possible. We will revise the plan every semester during one of your regularly scheduled one-on-ones (see below) to discuss what goals were met, which were not, new goals and what types of support are needed to make continued progress. The IDP should also include program due dates and timelines for milestones (e.g., comprehensive exams)! The IDP template can be found here. To get the most out of the meeting, please prepare the document and send to the PI at least 24 hours in advance of the meeting.

Meetings

Lab Meetings. Lab meetings are meant to maintain connectivity among lab members. They will be used to facilitate learning and development. The standard format for lab meetings will likely be updates about the upkeep of the lab space and project needs, followed by a *paper discussion*. The lab will read a published paper ahead of the meeting, and then we will constructively discuss the content and significance of the article. As needed, lab meetings will be used for *feedback meetings* where members submit manuscripts or practice presentations for class assignments, diagnostic and comprehensive exams, conferences, etc. The last lab meeting of the month will

⁶ The idea for implementing IDPs came from the PI's former postdoc advisor Dr. Tracy Heath.

be reserved for *literature scans*⁷. Literature scans require that each member of the lab select a journal relevant to our field and provide summaries of all the publications relevant to the lab in the last month. This helps everyone keep abreast of the literature without requiring so much reading individually, which often is not practical. *Feedback meetings are the most important kinds of lab meetings and will be prioritized over paper discussions and literature scans*. Everyone should do their best to attend all lab meetings, but especially these.

Project Meetings. These meetings will be held to discuss progress and needs for projects that are collaborative with members within and outside of the lab group. For projects contained completely within the lab, these will occur as needed. For projects with outside collaborators, we will try to maintain a minimum of one meeting per semester, as their schedules allow.

One-on-One Meetings. All lab members will have a regular meeting with the PI throughout the semester, with frequency generally determined by career stage:

- Undergraduate students (working directly with PI) once per week
- Postdocs, Graduate students, and technicians twice per month
- Undergraduate students (working with Grad student or postdoc) once per month. This may be a joint meeting of several undergrads depending on scheduling. Undergraduate mentees should also be meeting with their grad student or postdoc mentor regularly based on a schedule they determine together.

During these meetings, we will discuss the status of projects, training needs, professional development opportunities, conference attendance, publications, and anything else the mentee or mentor wish to discuss. *Additional meetings can be scheduled outside of these as needed!*

Celebrations and Socials. Part of the joy of being a scientist is the challenge of the work. There are several stages of research from the conception of an idea, literature review, grant submission, funding, execution, publication and so on. The length of time between conception and product can be long. It is important to celebrate the milestones along the way, big and small, to help maintain our enthusiasm through the process. IDER lab celebrations and socials also serve a secondary purpose, community building. It is not about forcing lab members to be friends but being open to getting to know others in our work environment beyond what they can do for us professionally. Our lab mates are our colleagues and collaborators, but they can also be confidants with an understanding that only comes with shared experience and trust.

Environmental Deficits

Sometimes unforeseeable circumstances reveal that a lab is not the environment best suited to a mentee's needs. We reject the deficit model that assumes the mentee lacks in some capacity and suppose there are needs (perhaps unidentified) that the environment and/or mentor does not meet. In these instances, the lab group will do everything we can to address gaps in resources, mentoring and cultural needs to help support and improve the mentee's progress. If the mentor

⁷ The idea for literature scans came from one of the PI's mentors, Dr. Tracy Johnson (UCLA).

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and mentee decide that there are needs that cannot be met in their relationship, we will commit to helping the mentee find a better suited mentor and environment for their success. We do not view this as a failing of the mentee or the mentor, but a mismatch between the needs of the mentee and the resources available in the lab environment.