Zhang Research Group (ZRG)
Code of Conduct

Overview

We value the participation of every member of our community and want to ensure everyone has an enjoyable and fulfilling experience, both professionally and personally. Accordingly, all members of the Zhang Research Group (ZRG) are expected to show respect and courtesy to others at all times. We create our culture and our culture is inclusive.

Please note that this code of conduct is not a legal document, supplementing, but not superseding, Department and University-level policies for your level of employment or study.

To ensure accuracy and abidance, this document will be reviewed every semester during group meeting.

Inclusivity and diversity

Enjoyable, high-quality research can only be conducted when you feel safe, secure, and supported. All group members are thus dedicated to a harassment-free experience for everyone, regardless of gender identity and expression, sexual orientation, disability, physical appearance, body size, race, age, religion, socioeconomic background, and/or nationality. We do not tolerate harassment by and/or of members of our group in any form, and we ask all members of the community to conform to the following Code of Conduct (many of which are outlined here):

- All communication, be it online or in person, should be appropriate for a professional audience, and be considerate of people from different cultural backgrounds. Sexual language and imagery is not appropriate at any time.
- Be kind to others and do not insult or put down other group members.
- Behave professionally. Remember that harassment and sexist, racist, or exclusionary jokes are not appropriate.
- Harassment includes offensive verbal comments related to gender, sexual orientation, disability, physical appearance, body size, race, religion, sexual images in public spaces, deliberate intimidation, stalking, following, harassing photography or recording, sustained disruption of discussions, inappropriate physical contact, and unwelcome sexual attention.
- Participants asked to stop any harassing behavior are expected to comply immediately.
- Contribute to discussions in meetings with a constructive, positive approach
- Contribute to lab upkeep duties, everyone is expected to do their fair share
- Be mindful of talking over others when discussing in groups, and be willing to hear out and give credit to and amplify the ideas of others.
- Be mindful of extra burdens that individuals carry due to their race, gender, sexual orientation, etc that make certain interactions in certain places more difficult
- Discuss safety plans before conference and field excursions (identify potential areas of risk and have a response in mind).

- Include colleagues at conferences, have a plan for a buddy system, be proactive to include people in conversations and invite colleagues at social-professional gatherings

In addition to making group members feel safe and secure, diversity and inclusivity has numerous benefits to us all. Put simply, the greater the mix of people in our group, the greater the mix of skills, experiences, perspectives, and ideas we can collectively draw on. But the benefits of diversity and equality cannot be fully achieved without creating an inclusive environment.

Xinning will discuss the Code of Conduct with lab members who violate these rules, no matter how much they contribute, or how specialised or needed their skill set. If inappropriate behaviour persists after this initial discussion, formal processes, in line with Princeton's work practice policies, will commence. To report an issue, please contact Xinning Zhang; all communication will be treated as confidential unless mandatory reporting is required. If you do not feel comfortable contacting Xinning directly, please feel free to contact, for graduate students, the Director of Graduate Studies, the Natural Sciences Dean for Diversity, Equity and Inclusion or Natural Sciences Dean for Academic Affairs, and for postdocs and staff, the Department Diversity Committee Faculty Members. Confidental guidance is also available from CPS for graduate students or through CareBridge for graduate students, postdocs and staff.

Mental Health

There is increasing evidence that certain attributes of academic research, including PhD-level and post-doctoral studies, are detrimental to mental health. Specific factors driving this include:

- Low pay and quality-of-life issues, particularly as a function of living in an expensive town
- Long time commitment (often 5+ yrs) to PhD
- Year by year contracts for post-docs and some research staff
- Feelings of isolation in your research; e.g. everyone has their own topic and it can often feel as if you are working on your own
- Uncertainty in your research, although it should be noted that, in research of all kinds, it is not just the outcomes that are uncertain, but the questions themselves!
- Uncertainty in your post-PhD career
- So-called "negative results"; i.e. at some point in your research it is likely that certain questions will be more challenging to answer than anticipated, or that you will feel you have spent days/months/years toiling with little to show
- Burnout; i.e. feeling the need to work endless hours to make up for the above issues, and the subsequent exhaustion, encouraged by a "non-stop" work culture in academia
- Dealing with discrimation, stress and trauma of being a member of a historically excluded demographic from the academy.

All PhD and postdoctoral researchers (as well as grant-supported researchers and untenured faculty) come across some or most of these issues at some level. I strongly encourage everyone in the group to take an active and pre-emptive approach towards the maintenance of their mental health. In particular, we, as a lab group:

- *Support individuals making the best choices for themselves career-wise and personally. Beyond the lab group and department, career counseling and guidance can be obtained at the PU Career Center.*
- Encourage and support each other to look out for ourselves and each other.

If there is anything that is placing undue stress, or preventing you from performing at your potential, please do not hesitate to let Xinning, the Director of Graduate Studies, or Bess Ward the department chair, know so that we can help.

You should also be familiar with resources on campus:
Counseling and Psychological Services
Mind Body Programs
Center for Career Development

Every effort will be made to help you access the right support networks.

Outputs, publication expectations and standards, and open science

Where possible, all research outputs (e.g. papers) will be published 'Open Access' (OA) (preferably Gold or Diamond OA; for definitions, please see the Open Research Glossary), with manuscripts, decided on a case by case basis, uploaded to a relevant pre-print server (e.g. bioRxiv, EarthArXiv) prior to journal submission, review, and (hopefully) publication.

Authorship and Acknowledgements on any manuscript or presentation will be openly discussed in group meetings and should, if possible, include everyone who has made a significant contribution to the work. A "significant contribution" can include but is not limited to, interpretations of primary data and development of ideas presented in the work; it need not include data curation or financial contribution to the work undertaken. The order of authors on a manuscript or presentation should be dictated by the relative contribution made by each author (see here for further information); in the case these contributions are equal, authors should be listed alphabetically by surname. Where conflict arises, Xinning will facilitate discussion to help resolve this.

An open dialogue is encouraged, ideally via authorship, contribution, expectation 'check-ins' that will likely occur several times over the lifetime of the study for each researcher involved in a project. It is especially important to clarify expectations and roles at the initial stages of a project so that project members can make fair decisions on time, effort, and project scope. This applies particularly with collaborations across groups when long periods of time can easily pass allowing miscommunications to easily arise.

To help inform Editors, reviewers, and readers of our papers, we will include an author contribution statement as part of a paper.

Manuscript publications;
Papers must be shown to and receive formal approval from all co-authors (both inside and outside of Princeton) prior to submission; this is consistent with guidance provided by the Committee on Publication Ethics (COPE), who state that all authors must approve submission of work bearing their names. Please give co-authors at least two weeks to comment on paper drafts (esp. first submission drafts!); at busy times of the year, they may need longer. We also strongly suggest that the paper receives reviews from at least two colleagues prior to submission to your supervisors; this will help improve the final product, as well as providing a training opportunity. Upon submission, you are expected to provide all your co-authors with the complete submitted package as well as upload this to the manuscript folder on the lab google drive.

** Note that some ZRG research (funded by the Carbon Mitigation Initiative) is included in confidentiality agreements that clearly state we must obtain permission from CMI to publish data,

and that they must have at least 28 days to provide approval. Explicit permission must be sought for *every* paper and published abstract/presentation; i.e. images approved for use in one paper may not be approved for a different paper. If you require any guidance regarding paper submission, please speak to Xinning. **

Upon acceptance (or rejection) of your paper, you must inform all coauthors of the outcome as soon as possible and ensure all co-authors get a chance to look at and comment on page proofs (N.B. many errors can be introduced into manuscripts by the journal at this stage).

Note that after paper acceptance, final text and graphics files must be sent, in raw format (e.g. .docx, .ai.) along with an accepted version (the so-called 'Author Accepted Manuscript' or 'AAM') to all co-authors for their records/use within 14 days; uploaded to the lab's manuscript google drive. A pdf of the AAM version should be sent to Eva Groves for posting on the lab website.

Publishing in a timely manner is critical to scientific success as individuals, groups, and a society. We discourage "sitting on data" with data remaining unevaluated, unsynthesized and unpublished as this represents time and funding lost from individuals and tax payers. To promote timely publication, researchers, with the help of Xinning, will create and enact plans for publication at bi-annual career check-in meetings, group, and project specific meetings.
If for some reason, a data set must "sit" longer than 6 months without being evaluated and written up, Xinning will make a decision, with advice from project members, on how to proceed and who to take the lead on writing. It is often the case that we are all too busy, committing to too many "active" projects at once; finding the time and mental bandwidth to write may mean cutbacks in current and new obligations.

Conference Presentations, Abstracts
Conference abstracts must be shown to all co-authors (both inside and outside of the Zhang lab) at least one week before the abstract deadline**.** If the abstract represents a new piece of work for co-authors, you will need to share a slide deck of results and reasoning along with your abstract to obtain co-author approval, feedback. Upon acceptance (or rejection) of your abstract, you must inform all coauthors of the outcome as soon as possible.

You must also send a final draft of your presentation or poster to all co-authors (both inside and outside of the Zhang lab) at least one week before the date of presentation. Ideally, a near-final draft should be completed two-weeks before the date of presentation, so that it can be presented at a ZRG weekly group meeting; in this way, you will be able to receive feedback from your colleagues. Presentation and publishing ethics, both of which are at least partly captured by the Committee on Publication Ethics (COPE), state that all authors must approve submission and presentation of work bearing their names. The same applies to papers (see above). Note that after material has been presented at a conference, this must be sent, in raw format (e.g. .ppt, .ai) to all co-authors and data providers for their records/use within 14 days; if appropriate, this material can be uploaded to an appropriate online archive (e.g. FigShare, bioRxiv, EarthArXiv, ESSOAr) where it will be assigned a DOI, and will be useable and citable by the scientific community.

Work files, Raw and Processed Data outputs
All work-related files including raw (including lab notebooks), processed data, text files should be backed up by the lab members regularly (at least twice a year) to the Zhang Lab network drive (link to protocol). All presentations should be backed up to each lab member's folder within the Zhang Lab google drive and lab notebooks should be scanned and uploaded to the google drive at least once per year as well as deposited within the network drive in your directory. This

is very important not only for ethical reasons but for actual data safety! Members of the team who have relied solely on cloud backups have unfortunately lost important data or had very difficult times recovering their data.

Upon completion of a project and where data confidentiality allows, all data should be placed on an appropriate repository with a DOI; in the case of publication, these data should be published alongside the manuscript on a repository such as figshare. A curated version of all datasets used during a project should be uploaded into the appropriate project folder on the Zhang Lab network drive (e.g. manuscript folder).

Conferences
Logistics
You will be supported (financially and otherwise) to attend and participate in conferences related to your research at a frequency of 1 national conference per year and 1 one international conference over the duration of the PhD and postdoc. As a grad student, you are highly encouraged to apply for travel funds available at PU (GEO dept provides $1500 for conference support during the PhD) and through the conference itself. This is a CV bonus in addition to providing more conference flexibility to you!

You can either pay conference and travel fees and be reimbursed, or direct me or Eva Groves towards any bookings you need. In either case, you are expected to register for the conference as student/postdoc sufficiently in advance to obtain discounted registration fees. When possible, you will fly economy class and book the cheapest accommodation possible. You are encouraged to share hotel rooms if travelling with colleagues but this is not mandatory as Xinning realizes there are circumstances that making sharing difficult (but please get her prior approval). You must book no later than 1 month in advance of the conference, and preferably earlier to obtain the lowest cost travel costs and accommodations.

Some conferences that we regularly attend are below (this is by no means exhaustive, and other more specifically, ad-hoc meetings will likely arise):

American Geophysical Union (AGU) Annual meeting and AGU Ocean sciences meeting
American Society of MIcrobiology
ISME (International society for microbial ecology)
ASLO
European Geophysical Union (EGU) Spring Meeting
Northeast Geobiology and related regional Geobiology meetings
International Geobiology Conference (Banff)
Gordon Conference Topical meetings (Environmental Microbiology, Chemical Oceanography, Geobiology etc)
Goldschmidt Geochemistry

Note that we will typically aim to attend conferences '*en masse*', such that accommodation costs can be shared and, based on an experience, a more significant group 'impact' can be achieved. Exceptions can of course be made for conferences specific to your area of study and/or interest. If for reasons, only one or a few lab members can attend a conference, attendees are expected to report back on the " latest and greatest " to the rest of the lab in group meeting so that we can all benefit (there many also be a couple requests from lab members to attend a certain talk of broad interest to the lab for a report back to the lab).

Working hours
I recognise that many of you have personal responsibilities and obligations in addition to your PhD and postdoc studies. I appreciate that, at times, it can be difficult to balance those demands, and that a classic '9-to-5' day may not be optimal. Because of this, the exact hours you choose to work is up to you. However, being on campus between 10:00a - 4:00p most days may help facilitate collaborative working and, we hope, lead to a more fulfilling research experience. In any case, communicating your regular availability to your group members is expected. Where possible, meetings and events will not be arranged outside these hours to allow participation by all ZRG members.

We all have a life - work has to be balanced with all aspects of life. On average, work hours per week are expected to be 9*5 = 45 hrs/week. Some weeks may be more physically or mentally intense than others depending on the specific work week with the understanding that group members may need some down time afterwards. While there is no upper limit for the hours a person can work, we stress paying strong attention to managing your fatigue and attention in the laboratory and commuting contexts for safety and setting a limit on work that allows you to maintain your physical and mental health.

Please inform Xinning of holidays (see section below) or notable absences in advance and add this information to the lab google calendar so that we know how to deal with emergencies in lab should they arise. Permission for holiday is very rarely required, but please respect key deadlines within the calendar year and the fact that we work in a research group. It is important to take holidays, respect weekends (or time in lieu) and establish a sustainable work-life balance. It is also important to respect the time and efforts of others, and the contribution of funders, and to note that effective working will improve the quality of your research and your work life with others. Where there are key time pressures, it is important to prioritise work. If you struggle with establishing a sustainable work life balance, please discuss this with Xinning at an early stage.

Group Meetings
Zhang Lab Group meetings: Group meetings are typically held weekly during the academic year at 11 am via Zoom on Wednesday's. Summer group meetings are more casual, often occurring every two weeks (time TBD). All group members are expected to attend if they are not otherwise engaged in other research-related activities (e.g. at conference, attending training or a lecture, on vacation, have an unavoidable time conflict in the lab, etc...). Please let Xinning know if you will miss a meeting and why. This is an excellent forum for updating colleagues on project progress, developing research skills, mentoring, and widening our collective understanding. Meetings provide a forum for the presentation of results, such as 'dry-runs' of conference talks, and more informal discussions around research topics arising. As part of your professional training, you will be expected to lead a group discussion or journal club on a topic of your choice at least twice per term.

Scheduling is overseen by a different lab member each semester and the schedule can be found at this link.

Joint group meeting
Zhang and Ward research groups meet during the academic year on Fridays from noon - 1pm for research presentations by group members (typically 2 x 30 min talks). All group members are expected to attend.

Individual meetings: These will occur on an ad-hoc basis as personal situations require. These will give you an opportunity to discuss your progress and any administrative issues that you need addressed. You are encouraged to send a short agenda ahead of and to come fully prepared for individual meetings; in this way, discussions can be focused such that all concerns are addressed.

Individual meetings should be supported by a "big check in" update to your principal supervisor on a biannual basis using a formal template (link) as a framework for discussing progress and plans. Such reports are an important way to self-monitor your progress, as well as keeping your supervisor(s) informed of both positive and negative developments. They are particularly important for those who have supervisors based in other institutions.

General meeting guidelines for mindfulness :
We encourage mindfulness of meetings, specifically in their role in the success of their peers and lab group. Specific examples might include:
- offering to support an activity with your expertise/time/encouragement
- awareness that a consequence of running experiments, folks might have very limited time to chat in the hall, minimizing distractions in the lab and office (whistling/tapping/singing/music/perfume) that can make it difficult for others to concentrate
- helping each other keep to the scheduled meeting time (30 min? 1 hour? 2 hours?) and deciding if comments/questions add to the meeting's discussion/learning or if some might be more appropriate to bring up in a one-on-one side meeting (joint group meeting does not have to be a place to discuss research nitty gritty for more than a few minutes unless multiple people are involved, can participate).

Communication
While emails may be sent at any time, no lab members are required nor should feel obliged to reply to email outside of their typical work hours (outside of 9a-5pm weekdays) unless a communication is labelled "URGENT" in which case a text that accompanies an email may be most effective. Please give consideration to the timing of the email with respect to what the recipient needs to do; for example, try not to send an email at 17:59 for something that is required for a 10:00 meeting the next day.   If you experience any challenges related to flexible working within the ZRG, please do not hesitate to contact Xinning.

To help with inter-group communication, you should be a member of the Zhang lab Slack group. Please ask Shannon Haynes to be added to the group. Messages to the group should be polite, informative and respectful.

Social media
In your work-related life, you may wish to engage with social media (e.g. Facebook, Twitter, and Instagram). Please be considerate of others when using these platforms, and respectful for how others may wish to use them. You must therefore bear in mind the *very public nature* of interactions on social media, and that many people (who may not be on a specific platform) will read and hear of online correspondence. For example, if you want to share unpublished research, please discuss this beforehand with all project members for approval on a post. We are not compelled to engage with any social media, use any such media for work-related purposes, and we will never pressure each other to 'friend' or 'follow' each other. Bottom line, be respectful of the lab group and lab group members when posting.

Journals

You should be familiar with recently published material relevant to your research project. Below are some academic journals that may be of interest:

UPDATE: Applied and Environmental Microbiology, mBIO, Journal of Bacteriology, ISME, Microbial Ecology, FEMS microbiology, Environmental Microbiology, Limnology and Oceanography, Biogeochemistry, New Phytology, Frontiers of MIcrobiology and related, PLos Biology and related, Geochimica et Cosmochimica Acta, Geobiology, Organic Geochemistry, Global Biogeochemical Cycles, Global Change Biology, Environmental Science and Technology, Environmental Research Letters, Metallomics, Nature Geosciences, Nature, Nature Microbiology, Science, Sciences Advances, Scientific Reports, PNAS , National Academy Annual Reviews, Earth and Planetary Science Reviews, etc.

Keeping up on literature: Signing-up to 'mail alerts' from specific journals and more general publication 'feeds' (e.g. Google Scholar) are highly recommended (you can refine by search term, topic); by doing this, you can be kept informed of newly published literature related to your studies. You are encouraged to share any exciting publication news with the group on SLACK, by email, or other means.

Holidays
PU provides *24* days per year for staff beyond the 10 days designated as university approved holidays (see link to PU calendar). PU graduate students may take up to four weeks of vacation, including any days taken during regular University holidays and scheduled recesses. We strongly encourage lab members to take time to relax, visit family and friends, and generally unwind from the rigours of research. In general, this time off pays itself back in improved productivity and creativity at work. We support flexibility in taking university approved holidays at alternative times of the year, if more convenient.

**To prevent people from contacting you while on vacation and to keep track of who we should contact in the event of lab emergencies (e.g., freezer failures) please record your vacation on the "Lab Member Traveling" category of our Google Calendar. Shannon will give you access to this calendar upon arrival. **

Service and Outreach
Science-oriented service and outreach to the general public for the purpose of communication and for erasing systemic barriers to scientific achievement for historically underrepresented group in the academy is a valued goal of our lab. Given the diversity of talents and life experiences in the group, we support service and outreach in the ways that are most appropriate to individual lab members. This can span the range of classroom demonstrations, mentoring of summer interns, tutoring, demonstrating, involvement in various service and policy committees to... Please discuss service and outreach efforts with Xinning should you see them substantially affecting research progress, particularly if they mean that you have less availability during normal work hours. There may be a way to structure such activities to be better integrated into the specific goals of existing grants. In general, Xinning is more-than-happy to be flexible on this, so long as researchers are progressing well. But please do request let me Xinning know of substantial commitments as soon as they are established.

Thanks, and please enjoy your time in the Zhang Research Group!

This CoC was edited by the Zhang lab , April 28- April XX, 2021 (Eunah Han, Katja Luxem, Xinning ZHang, Emma Bertran, Romain Darnajoux, Shannon Haynes, Ashley Maloney, LInta Reji)

This Code of Conduct (CoC) borrows heavily and is modified from three open source CoCs: (o) Basin Research Group CoC (Chris Jackson), (i) BahlaiLab CoC (Christine Bahlai); (ii) WhitakerLab (Kirstie Whitaker); (iii) Hill Lab (Jon Hill); (iv) Krevorlab (Sam Krevor); and (v) MicroMicEng (Ben Britton).

Important links regarding to Zhang Lab Safety (review each semester)

- Zhang Lab Field Safety Plan