Participation Guide for the Zappa Group at Columbia University
(General Advice and Expectations)
2020-07-29 Rev1

This is the first version of an evolving guide on how to participate in the Zappa research group at Columbia University. This document builds on similar efforts by colleagues (especially Prof. Ryan Abernathey and Prof. Róisín Commane).

Core Principles
1. **Respect Others**: abide by the code of conduct.
2. **Foster an Inclusive Group Environment**: constantly strive to be a group that is welcoming to all and encourages/empowers diverse individuals in the scientific community.
3. **Research**: we are all here because we are passionate about science and want to make a big impact on our field. This requires working with a sense of urgency.
4. **Communicate with the Group**: participate in group events, be present at the office, and be available via communication channels.
5. **Take Care of Yourself**: your physical and mental health is paramount.
6. **Fieldwork:** this should be done in a safe and constructive way.

1. Respect Others: Code of Conduct
 Our group is built upon mutual respect, including respect for everyone's opinion and their time. We are dedicated to providing a harassment-free experience for everyone, regardless of gender, gender identity and expression, age, sexual orientation, disability, physical appearance, body size, race, ethnicity, religion (or lack thereof), or political views. We do not tolerate harassment or bullying in any form. Sexual language and imagery is not appropriate in any professional context, including group meetings, individual meetings, conferences, online communications, and work-related social events.
 Respect for others goes beyond simply "don't harass." Respect requires creating an environment where people of all backgrounds and personalities feel comfortable and welcome in scientific discussions. This means being conscious of how we talk to each other and leaving space in conversations for everyone's voice. Interrupting, talking over others, and aggressively dominating a conversation are unacceptable behaviors.
 Anyone violating these rules may be suspended temporarily or permanently expelled from the group, at the discretion of the group leader, Christopher Zappa.
All Columbia University employees and students must understand and comply with the University's policies and procedures regarding harassment and discrimination (for employees; for students). Prof. Zappa is a mandatory reporter and will report any incidents of harassment or misconduct that violate these policies.
 There are a number or resources available to resolve interpersonal conflicts and may differ depending on your role within the group (e.g., Zappa, student, post-doc, engineer). Zappa, Post-docs and Staff members may contact Mingfang Ting (OCP Associate Director), Virginia Maher (LDEO Human Resources), or Kuheli Dutt (Assistant Director of Academic Affairs and Diversity at LDEO). Graduate students may contact Zappa, Kaleigh Matthews (Graduate Program Coordinator), and/or Jerry McManus (DEES Chair), and/or Göran Ekstrom (Director of

Graduate Studies) for direct help and guidance towards further resources. All Columbia members may also meet with the Ombuds office by appointment at Lamont for confidential guidance. Depending on the severity of the situation, conflict resolution will generally begin with informal resolution, and may require mediation or the filing of a formal grievance.

Group members should familiarize themselves with the Lamont Code of Conduct.

2. Foster an Inclusive Group Environment

The group is committed to Diversity, Equity, and Inclusion (DEI) at Lamont, Columbia and beyond. We are constantly striving to be a welcoming group to everyone. As a primer, incoming lab members are encouraged to read about:

- Race and racism in the geosciences (written by Dr. Kuheli Dutt, Assistant Director of Academic Affairs and Diversity at Lamont)
- The experiences* of and calls to action by Black academics
- The experiences of female geoscientists, and how the existing structure of college-level STEM education discourages women of color
- Intersectionality ("the critical insight that race, class, gender, sexuality, ethnicity, nation, ability, and age operate not as unitary, mutually exclusive identities, but as reciprocally constructing phenomena that in turn shape complex social inequalities") in the context of the geosciences
- Indigenous peoples and earth science

paywalled but can access while on Lamont or Columbia network/VPN

There are on-going discussions at Lamont (and in the broader Earth Science community) about how we as scientists can work towards increasing diversity in our field. Being familiar with the concepts and issues presented in these articles will allow us to participate meaningfully, and lab members should always feel welcome to ask questions or initiate conversations with the group on these topics. In addition to reading and discussion, members of the lab are encouraged to take part in programs aimed at increasing diversity in STEM. Some examples of things Zappa lab members have participated in or know of include:

Morningside
- Girls Who Code @ Columbia University
- Columbia Spectra club

Lamont
- Secondary School Field Research Program (coordinated by Bob Newton)
- The Lamont summer internship program (coordinated by Dallas Abbott)
- Earth2Class
- Suggest diverse speakers to the OCP seminar series! (see here for current OCP seminar coordinators to contact). As a graduate student or postdoc, you can even volunteer to be a coordinator
- Race talks and the monthly Gender and Diversity Coffee Hour (keep an eye out for inldeo listserv emails)

NYC
- [Citizen Schools](#)

The Zappa Lab also advocates for the co-production of knowledge with indigenous communities, via seminar programming, proposal writing, and in any applicable aspect of a research program. An example is our ongoing project, [Ikaaġvik Sikukun](#), Iñupiaq for "ice bridges."

3. Research: Roles and Expectations

We strive to apply consistent, focused effort to our research in a serious, professional way. This means working with a sense of urgency appropriate to the intellectual challenges posed by the Earth system. It **does not** mean putting in unreasonable, unsustainable hours, leading to unhappiness / burn-out.

Expectations for "Being Present" and Vacation

One of the great advantages of working in academia is the flexible schedule. But this flexibility can also be a curse. There is a reason why businesses require their employees to show up every day at nine: this is how work gets done. Our situation is additionally complicated by the fact that we split time between the Lamont Campus and the Morningside Campus.

Here are some general guidelines to help define what it means to be "at work":
- Aim for a 40 hour work-week *on average*. Academic work often occurs in bursts. Sometimes you are happy and excited to work an 80 hour week as you are on the cusp of a major breakthrough or taking data on fieldwork. You can balance these periods of intensity with slower-paced weeks at another time.
- Generally plan to be at Lamont for most of the day on Monday, Wednesday and Friday if you are in class Tuesday/Thursday, throughout the week if not in class. Being present in the office is important for building relationships with your colleagues and for the spontaneous generation of new ideas.
- Be available on communication channels all business days (Monday - Friday) during business hours (10am - 6pm) when not in seminars/classes (See communications below). That being said...
- You are expected to schedule several blocks of time each week to focus on research without distraction, i.e., no need to respond to email/Slack/Skype. Group members are expected to respect these scheduled blocks, unless a very time-sensitive issue comes up *that cannot be answered by anyone else*, such as:
  - An imminent (within 48 hrs?) proposal deadline.
  - A pressing admin request.
  - Something important comes up on a call.
- Remote work is an option in some circumstances. Some examples:
  - The group may collectively decide on a bi-weekly day to all work from home as an opportunity to focus (e.g. Tuesdays or Thursdays).
  - You may want or need to work remotely (including beyond NYC) under certain circumstances, such as long-distance travel to be with family. The possibility should be discussed with the group and *cannot clash with field or lab work*. All goals for

this time away must be clear and discussed in detail with the PI before travel is booked.

- Be clear about when you are really on vacation, as opposed to working remotely. (See section on self-care.). Lab members will expect you to be working and available on our communication channels if you don't take vacation days (see below).
- Students and postdocs have 23 days of vacation per year within the group. The official university GSAS policy stipulates a minimum of 10 days for grad students, but this is likely not enough. **All lab members should utilize their allotted vacation time** (see section on Self-Care). Vacation days are accrued from July 1 through June 30 at a rate of 2 per month (except 1 in June); a maximum of 23 days can be carried over from one year to the next. "Deficit spending" of vacation days is allowed. These days do not include official holidays or any days of medical leave/sickness. If you are sick, please work from home and don't get anyone else sick.
- Our group also does a lot of fieldwork that can require working long hours over weekends when necessary. If you work weekends on a field project, these days can be used as additional vacation days on agreement with the PI. In the case of a research cruise, sea pay may be an option as per Lamont policy.
- Travel dates for vacation (and non-vacation remote work) must be approved by Prof. Zappa. These requests should be made via email at least one month before any planned travel *and cannot clash with field or lab work.*

Expectations for each individual role is explained at the end of this document. But common expectations for all group members include:

- **Research Goals:** If you are successful, the group is successful and Chris really wants you to succeed! He will do his best to advise you to be successful in research. Approaches will rarely work as expected the first time. Perseverance through occasional roadblocks is key to a successful research career.
- **Set Goals and Timelines**: The PI can help give structure to your project by defining specific milestones and timelines for their completion. Some people prefer to be closely managed in this way, while others may prefer a more hands-off approach. Each member of the group will work with Chris to decide on an approach that works for both of you. Chris will never hound anyone on their research: the onus is on the group member to lead their research and come to Chris with their research. All agreed upon goals must be completed, with Chris informed of progress if not completed over the first agreed-upon timeline.
- **Material Support**: You are never expected to spend any of your personal finances on anything related to research. All conference travel, computer supplies, books, etc. can be paid for with grant or internal support, which includes PI/student "green money." These expenses should be coordinated via the PI. Chris will often be able to pay for flights, etc ahead of time so please coordinate before purchasing.
- **Safety training:** All group members should attend lab/Lamont safety training sessions as they are offered. They should also discuss laser and electrical safety with Chris before working in the lab. For field safety training, see the separate section below.
- **Attending conferences:** The general rule for supporting conference travel out of my research grants is that it has to be for presentation of mature work, with a manuscript draft circulated to co-authors by the time of the conference. A major reason for this is

that you cannot present the same work in two successive years, and I want to make sure that we have a solid story before airing it out in a formal conference setting (very different from say a Science Team meeting, where presenting work in progress is fine). You can however give the same talk at different conferences (e.g. AGU and AMS). If your work is not mature yet it's best to postpone until it is ready. The exception to this rule is the AGU virtual poster presentation, in which ongoing research can be submitted before a manuscript is ready.

4. Communication

Our group uses several channels of communication. You are expected to participate in all of them.

- **Email:** All important official correspondence will happen through email. Check it regularly.
- **Slack:** Our group slack channel is our preferred mode of communication. It's a way to discuss things more interactively and informally than email. It also allows for better communication in group projects. The channel can be joined at:
  https://join.slack.com/t/mothers-of-invention/signup
- **Weekly Meetings:** Every group member will meet with Chris individually once per week. The group member will prepare an agenda for and lead this discussion. This meeting can include everything from research to admin questions but you are expected to address how the previous week's research goals have been achieved and proposed goals for the following week.
- **Group Meetings:** Group meetings are currently held Wednesdays at 4:00-5:50 pm in the Oceanography 204 module (at Lamont). Lab members should expect to present their ongoing research when scheduled. If you have a conflict that prevents you from attending, contact Chris ahead of time.

5. Self Care

Your physical and mental health are crucial to your well being as a person. These should always take priority over your studies and work. A satisfying and respectful work environment is an important factor in your mental health. Science can be an emotional roller coaster. Specifically for graduate students: Exams, paper reviews, fellowship applications, and job searches all involve being judged, which often causes anxiety. There is growing awareness in academia that graduate students are at high risk for depression and anxiety. If you feel you are facing mental health challenges, don't be ashamed--you're not alone!

With this in mind, our group strives to do everything possible to support lab members and ensure a healthy work-life balance. The vacation and workload expectations defined above are a big part of this. Some tips for self-care in academia, based on experience, are the following:
- Maintain a healthy sleep schedule.
- Find a respectful and professional way to say *no* to extraneous responsibilities.
- Maintain a work-life balance that keeps you fulfilled.

- Develop a support network among your peers. Also, cultivate a diverse range of mentors that range different career stages.
- If you feel overwhelmed with work, reach out to other group members for support in developing a plan to structure your time and get your head above water.

If you feel like you need help, don't hesitate to contact Columbia Counseling and Psychological Services

Fieldwork Information and Expectations

Fieldwork Behavior:

Responsible and respectful conduct is expected from all group members while in the field and at sea. You are representing Columbia University and Lamont-Doherty Earth Observatory and you are expected to behave as such. The Lamont Code of Conduct should be read by all group members: https://diversity.ldeo.columbia.edu/codeofconduct

During field deployments, all team members, including ship crew and all science parties, are to be treated with respect. The PI has the authority and responsibility to remove from fieldwork any member of the science party if that person's behavior creates a serious problem for the field station or any other members of the field deployment. These behaviors include:
- Physical or verbal abuse or assault,
- Bullying,
- Intimidation,
- Coercion,
- Threats,
- Gender, race-based, or sexual harassment,
- Sexual misconduct,
- Behavior that endangers the health and safety of oneself or others.

Formal warning(s) for "minor" infractions may be issued before removing that person from the fieldwork. The PI will keep a record of who has been warned.

Any team member who experiences any of these behaviors has a responsibility to inform both the PI and the senior scientist during the field campaign. Steps will be taken to de-escalate the situation while in the field and the group member will be protected and will have the choice of what they would like to happen to resolve the situation. Prof. Zappa is a mandatory reporter and will report any incidents of harassment or misconduct that violate Lamont/Columbia University policies.

Fieldwork Preparation:

Prior to departure, Chris will hold a pre-trip meeting to outline all expected roles and responsibilities during the trip. During this meeting roles and responsibilities will be outlined for all individuals. Tasks will be assigned or rotated in a way that avoids gendered divisions of labor. All logistics, including sleeping arrangements, bathroom arrangements, cooking and cleaning turns, and responsibilities for carrying luggage/equipment will be clearly spelled out. If a participant is uncomfortable about a sleeping arrangement or chore, they should raise the topic with the PI and other members of the group at this time.

Field site staffing and communication:

Both undergraduate and graduate students are not permitted to work in remote locations on their own (and it's not recommended for anyone else either). So unless specifically agreed otherwise, any remote area fieldwork will always have at least two (ideally three) people. Fieldwork in urban areas (e.g. around NYC) can be conducted solo on agreement with Chris. On all fieldwork, you are expected to communicate with Chris both before and after completion of the work and ideally during the work if phone/wifi coverage is possible. For any considerations (e.g. medical accommodations) that you would prefer to be kept private, please tell Chris ahead of time so it can be accommodated in advance.

Fieldwork cost reimbursement:
All expenses related to fieldwork will be reimbursed through OCP or DEES directly. Columbia is moving towards a completely online end-to-end travel system that will include purchasing and reimbursement in a streamlined system named Concur. Flights may be booked ahead of time through CU's travel agency. Flights purchased at least 14 days prior field work may be submitted for reimbursement prior to field work. Travel advances are available and should be coordinated with Chris if desired. Per Diem is only available on federally funded grants and Chris' funding comes from both federal and non-federal sources. So keep all food receipts just in case. All travel expense claims will also require receipts (eg. airline ticket purchase confirmation email, Lyft ride to airport receipt email, hotel folio, gas receipt). Both OCP and DEES use the same travel system, Concur.
         When preparing your travel, please review with Chris prior to submission. Always cc Chris on your email correspondence.

Driving safety:
The most dangerous thing we do on fieldwork is usually the drive to/from the site. All drivers should be over 25 (usually needed for rental cars) and be comfortable driving at night and on highways. If you are comfortable driving for fieldwork, let Chris know and you will be added to the designated driver list and driving and safety discussions will be undertaken before any field deployment. Drivers are to put safety first, regardless of any field deployment pressures and not drive when tired or unfit to focus.

Car Reimbursement/Rental:
The group does not currently own a vehicle. Personal vehicles are reimbursed at at the current government per mile rate from the grant sponsoring the fieldwork. If a personal vehicle is not available, cars can be rented from Hertz. For Columbia business travel, at the time of making a reservation, be sure to provide the Columbia University account number **(CDP#), 254158**, so that Loss Damage Waiver (LDW) and Liability are included in the rental. This covers $100K/person, $300K/accident & $25K in property; the liability supplement and additional $1M additional coverage is not included. Vans are also available for reservation from DEES.

Offline computing:
Many fieldwork situations (especially cruises) do not have reliable internet access. So all researchers doing field work need to have a laptop (lab-owned or personal) with offline analysis capabilities (eg.if using Matlab, make sure to get a "stand-alone" license.)

Below we enumerate specific responsibilities and expectations for different roles within the group.

PI Responsibilities

As the group leader, Chris has a unique and challenging range of responsibilities.

1. **Define the Overall Research Directions for the Group**: Identifying the important problems is one of the hardest and most crucial aspects of scientific research. It requires an awareness of the overall state of knowledge in the field, plus creativity and plenty of luck.

2. **Obtain Funding**: Scientific research is expensive! A single Ph.D. student or postdocs costs more than $100K per year. A central role of the PI is to obtain grant funding to support our work, without which no research could happen. It should be noted that graduate students will always get a stipend for their five years of graduate school. The source of that stipend is Chris's job to deal with.

3. **Provide Scientific Mentoring**: It is the PI's responsibility to help the junior members in the group develop into mature, independent scientists, capable of defining and executing their own research programs. Sometimes this process can be challenging but is intended to get the best from everyone.

4. **Provide Feedback**: The PI is expected to provide feedback on all aspects of research, including defining hypotheses and formulating questions; identifying specific methods and technical approaches; identifying relevant datasets; writing and debugging scientific code; producing figures and visualizations; managing data; and writing and editing papers. Feedback is also available on course selection, overall career goals, and long-term strategy. Again, Chris will challenge everyone (himself included) to think about the big picture and why we are doing the research.

5. **Oversee the Publication Process**: Published paper are the main output of our team. The PI can help identify when results are ready to publish, select which journals to target, and help manage the ups and downs of the revision process. Chris will also cover publication charges for any publications resulting from research within the group.

6. **Define the Technical Approach**: Instrumentation, sensors, and software for data analysis are very important to our group. The PI is working hard to provide a software and hardware environment that enables everyone else to be as productive as possible.

7. **Provide Moral Support**: Graduate school, and research in general, can be an emotional roller coaster. Chris has experienced the research environment at a number of Oceanographic Institutions (i.e., UW-APL, WHOI, Parthenope, Lamont) and is always available to listen and provide advice.

8. **Provide Recommendation Letters**: You need them for almost every career move. Don't be shy about asking for them.

9. **Sign Stuff**: There are lots of signatures needed to navigate the bureaucracy.

10. **Departmental Service**: The PI has lots of responsibilities to the department, including attending department meetings, participating in committees, and serving on student masters meetings / qualifying exams / thesis proposals / thesis defenses.

11. **Community Service**: The PI is expected to participate in community workshops, science committees, and professional organizations (e.g. AGU, AMS), as well as review papers and proposals on an ongoing basis.
12. **Teach Classes**: The PI teaches one class every other year, which occupies a large fraction of available time and effort.
13. **Do Personal Research**: On top of the above, believe it or not, the PI still has his own personal research projects which he occasionally attempts to find time to work on. This always takes a back-seat to research within the group.

One point of enumerating these responsibilities is to emphasize that the PI has a great many demands on his time, which must be managed carefully. Please allow a week for comments on papers or other non-time sensitive documents, even longer for letters of recommendation. Chris will always strive to make deadlines for proposals, report submission, etc. and will email over the weekend if necessary.

Postdoc Responsibilities

Postdocs have fewer responsibilities than the PI and have the experience to function independently. On the other hand, they have to face the uncertainty of the job market...

1. **Produce Research**: As a postdoc, you are a research machine. Your number-one job is to crank out new scientific discoveries!
2. **Write Papers**: You are expected to take the lead on writing the papers that describe your research during the Post-doc project with the PI.
3. **Attend Conferences**: This is a key part of getting the word out about your research. Chris will strive to inform you of known workshops, conferences, etc. but it's your responsibility to identify conferences of interest and submit your work to them after discussion with the PI. Limited funding for conferences is available on most of our federal grants but other sources of travel funds may need to be found.
4. **Produce Reusable Data / Software**: Research is more than just papers. You are expected to share the outputs of your research (data and software) in a way that makes them reusable by the rest of the group and the rest of the field.
5. **Share your Expertise**: By this stage of your career, you have accrued substantial expertise in several areas. Share your knowledge by letting us know about new papers, giving feedback on others' work at group meetings, etc.
6. **Mentor Others**: The more junior members of the group will benefit immensely from your mentorship, and you will gain valuable experience along the way. Take the initiative to develop these relationships. Any help you can give to both graduate and undergraduate students in the group is encouraged. If you feel that help is taking more time than you are happy with, please discuss with Chris.
7. **Communicate with the Group** and attend group meetings. (See Communication section below.)
8. **Plan for the Future**: A postdoc is a temporary position; yours will end before you know it. Think about your career goals and make a concrete plan for obtaining your next job; we will do everything we can to support you.
    (a) Chris will support you submitting proposals (including working with the Postdoc on the proposal text) but the work must be lead by the postdoc.
    (b) If you would like teaching experience, discuss this with Chris during early meetings as this can take time to organize.
    (c) Discuss your current skills and identify the skills you want to develop as part of your postdoc.

Grad Student Responsibilities

Grad students have a complex range of responsibilities to manage. Learning to deal with it all is part of the journey of graduate school.

1. **Stay in Good Standing**: it is YOUR responsibility to understand all of the formal requirements of the graduate school and the department, and to stay ahead of all deadlines regarding registration, paperwork, qualifying exams, committee meetings, etc. The DEES Guide to the PhD Program is an essential reference in this regard. Any questions beyond the DEES guide should be addressed to Kaleigh Matthews and the PI.

2. **Be Professional and Organized**: Develop a system that works for you for managing your responsibilities, coursework, and research. This is one of the biggest challenges of graduate school. There is no single formula that works for everyone, but your peers and other lab members may have useful suggestions!

3. **Develop Independence**: Your goal is to become an independent scientist. This means you should not hesitate to pursue your own ideas as they arise. Go to as many talks as you can to learn new things! Read (and re-read) papers in your field and outside it. Download that dataset and analyze it! Run that new model! Don't wait to be told to do things. Take the initiative.

4. **Focus on your Research**: Your research is *the most important* part of your grad school experience. It should be your main priority, and you should approach it with the seriousness and professionalism you would a full-time job.

5. **Develop a Research Plan**: In consultation with your advisor, you should come up with a long-term plan for your research, with clearly defined milestones and goals. Each week, you should have a short term plan for exactly what to work on to move towards those goals. If a project has been outlined/funded, the timing of any fieldwork should be taken into account. If a project has not yet been developed, then the student and PI will work together to develop it.

6. **Write Papers:** As part of your research, you will aim to write a number of peer reviewed publications. You will work with the PI on this process, which will involve many drafts before submission. You will aim to submit 2-3 first author publications over the course of your graduate work, with additional (but lower priority) co-authored publications depending on the field projects in which you are involved.

7. **Attend Seminars and Conferences**: Students should attend seminars relevant to their research. When projects are developed and research goals have been achieved, students should also attend conferences. Limited funding for conferences is available on most of our federal grants but other sources of travel funds may need to be found if a research area is not currently funded.

8. **Produce Reusable Data / Software**: Research is more than just papers. You are expected to share the outputs of your research (data and software) in a way that makes them reusable by the rest of the group and the rest of the field.

9. **Stay on Top of your Coursework**: The beginning of grad school is dominated by classes. You should strive to get as much as possible out of your coursework and connect it to your research wherever possible.

10. **Ask Questions!** If something is unclear to you--either a science question or a procedural / administrative issue--it is *your responsibility* to speak up.

11. **Communicate with the Group** and attend group meetings. (See Communication section below.). Any help you can give to undergraduate students in the group is encouraged. If you feel that help is taking more time than you are happy with, please discuss with Chris.

12. **Communicate with the PI:** Through each of these steps, the student should communicate with the PI. If, for any reason, the student feels that they must switch advisors, they should inform the PI and directly contact the Graduate Program Coordinator, currently Dr. Kaleigh Matthews.

Undergraduate Student and Research Assistant Responsibilities

Undergraduate students join the group for summer projects, senior projects or research semesters. Research assistants join the group at any time.

1. **Develop a Research Plan**: In consultation with your advisor, you should come up with a research proposal for your research before you begin. This short proposal should have clearly defined milestones and goals. Each week, you should have a short term plan for exactly what to work on to move towards those goals.
2. **Stay on Top of your Coursework**: All undergraduate students will be taking classes while doing research in our group. Seniors and semester students will have their regular classes. REU/summer students will often have classes to attend as part of the REU program. The time you spend doing research in our group should not negatively impact your coursework. If you are finding it difficult to balance classes with research, please talk to Chris ASAP.
3. **Attend seminars:** Research Assistants are strongly encouraged to attend seminars of interest to their research.
4. **Produce Reusable Data / Software**: Research is more than just papers. You are expected to share the outputs of your research (data and software) in a way that makes them reusable by the rest of the group and the rest of the field.
5. **Ask Questions!** If something is unclear to you--either a science question or a procedural / administrative issue--it is *your responsibility* to speak up.
6. **Communicate with the Group** and attend group meetings if possible. (See Communication section below.) Chris is available to help you any time his door is open. And ask other group members for help when he is not available.