

### **What do we do in the Dantzer Lab?**

We are integrative organismal biologists that are fascinated by questions about the ecology, evolution, and physiology of animal behavior and life histories. We currently study how wild animals adapt or cope with fluctuating environments, the causes of variation in behavioral traits of wild animals (especially social behaviors), how physiological systems may constrain or facilitate responses to natural selection, and how ecological factors that induce a maternal hormone response affect offspring. Currently, we study wild red squirrels in the Yukon, mice in Michigan, and prairie voles in Ohio. We also supplement this work with phylogenetic comparative studies. We like to incorporate field and lab studies to address our research questions.

### **What are the Goals of the Dantzer Lab?**

1. Do good science in a welcoming, safe, diverse, & nurturing environment
2. Produce independent, generous, & professional scientists
3. Ensure our research is reproducible & our data are curated, accessible, & archived
4. Be an ambassador for scientific research & engage the public in our research

### **Why this Lab Manual and Who Should Read it?**

- It provides explicit expectations for both the mentor (me) and mentee
- Intended audience is graduate students and post-docs (we have a separate one for undergraduates)
- We need to read this together once per year
- This is a dynamic document that will change. Feedback is welcome!

### What can you expect from me as your mentor?

- 1. I will establish the research themes of the lab and secure funding for you to pursue research questions under those themes.** We study the evolution of behavior, mechanisms that underlie behavior, and how natural selection affects animal physiology. These are broad themes that give students latitude to work within but note that in some cases I will only have funds to work on specific research questions. At this point our study taxa are red squirrels, mice, and prairie voles and I will rarely be able to support students studying other taxa unless they have their own funding or a co-supervisor.
- 2. I will provide a safe and supportive working environment where you will grow as a scientist.** Good science is done in a welcoming, safe, and supportive environment. I aim to provide you with a lab that is free from any form of harassment, discrimination, or hostility and one that recognizes the importance of your physical/mental health. I will be a positive, encouraging, and fair mentor. I expect that you will finish your graduate degree with new skills (lab, field, statistical), publications, and that you will be an expert on your own subject. If I can't provide training for a specific skill, we should work together to find a collaborator.
- 3. I will help you navigate your graduate degree.** I am not an expert on all the requirements for your specific program and these can change. I will help you understand the requirements, establish a timeline for completion, help you figure out what courses to take, and assist in selecting committee members. I will always advocate for you in any departmental matters or those issues associated with your graduate program.
- 4. I will provide you with my time and make myself available to you.** We will meet individually once or twice per week, once per week as a lab group, and any other time (within reason) that you need my assistance or input. I will usually respond to your emails or messages on Slack within 24-48 hrs. For larger issues such as comments on manuscripts, I may need 10-14 days before I can complete the task. I am always available via cell phone or email in case of an emergency and you should always feel free to stop by my office.
- 5. I will treat each person in the lab equally.** I want everyone in the lab to be successful. I will provide an equal amount of input, guidance, or any other limited resource into their projects.

- 6. I will encourage you to communicate your science and expand your professional network by attending conferences.** UM provides ample funding to attend conferences but in the absence of such funding I will support your costs to attend professional conferences to present your research (at least one per year) and to put in effort to network with other attendees. Other than students in their first year of graduate school, all students are expected to present their research.
- 7. I will provide you with a work plan and give you constructive feedback on your progress.** In the beginning of your program, we will establish a mentor/mentee agreement where we discuss what milestones you need to meet each year. We will meet twice per year to discuss your progress. If you are not meeting these milestones, we will develop a plan for improvement. My goal is for you to finish your Ph.D. in 5 years.
- 8. I expect you to provide feedback to me and to communicate with me when you need help with something.** I want you to be successful. This means we need to be able to communicate with each other. I understand that each person has their own unique learning style and I will do my best to work with you to figure out the best way to be your mentor. I am here for you if you need help.
- 9. I encourage you to participate in public engagement (outreach) activities and will provide support when available.** Being an ambassador for science and academia requires us to communicate our science to the public. I will strongly support your participation in such activities and provide funding if able.
- 10. I am committed to your success and providing guidance while you are in my lab but also when you leave the lab.** I will write you reference letters, advocate for you when needed, acknowledge and promote you and your work in any talks I give, nominate you for awards, and will always be available for you in case you need advice. I will support you in whatever career you decide (academia, teaching, industry, etc.).

## My Expectations of Graduate Students & Post-docs

- 1. I expect you to do independent research & become an independent scholar.** This means doing your own background reading and project. This is important for your own career and it is also the most satisfying outcome for me as I get to see you grow intellectually. I still expect that you will work closely with me to develop your research projects and work under one of the existing research themes of the lab. I want you to be passionate about your research so communicate with me if your interest wanes or shifts.
- 2. I expect you to take ownership of your career or graduate degree.** You are ultimately responsible for your own success. The graduate program has explicit policies and timelines and I expect you to know and meet these. In addition, you should know when you are going to be a GSI, when you take classes, when you will do field work, and when you will publish papers. I also expect that you plan ahead and think about the “big picture” of your program and for your career. I recognize that your long-term goals may shift while you are in a graduate program and you need to communicate these to me so I can help mentor you. If you make mistakes, I expect you to acknowledge them and help me fix them.
- 3. I expect you to behave professionally at all times & be a good lab citizen.** We are professionals and this means we need to be courteous, polite, and kind to each other whether it's in person, through email, or social media. All of us need to ensure we are creating an inclusive environment and any form of harassment or discrimination will not be tolerated. Being a good lab citizen means being positive, giving feedback and participating in lab meetings, celebrating the successes of your colleagues, sharing information (e.g., funding opportunities) or tips with other lab members, and cleaning up after yourself in the lab/field. If there is conflict among lab members, I expect you to tell me immediately so we can resolve the situation.
- 4. I expect that you will seek out your own research funding & be aware that my own funding is finite.** A part of becoming a professional is securing your own research grants even if they are small amounts of money. This is not meant to free me from paying for your/our research expenses but to encourage grant-writing practice and to help you to grow your CV. Given the difficulty of obtaining grant money, I expect that you will do your homework when it comes to spending money I have acquired (i.e., finding the cheapest price). I also expect you to keep careful track of all expenses you have made in a spreadsheet and ensure all receipts are accounted for.

- 5. I expect you to grow intellectually by reading papers, attending seminars, & meeting with seminar speakers or conference attendees.** I suggest you subscribe to electronic table of contents alerts to journals of interest and that you make time to read at least 3 papers each week. I highly encourage you to attend seminars such as the Biopsychology Colloquium and EEB seminar and meet with visiting speakers. Learning about topics outside of your expertise or interest is extremely important for intellectual growth, to put your own research in a broader context, and to understand its potential applications.
- 6. I expect that you will do reproducible science & curate your data.** We are obligated to do reproducible research. This means creating detailed protocols for any experiment or data collection you do, generating annotated R scripts, providing meta data for your data files, describing your data files and each variable, and provide as many instructions as possible so someone else could reproduce what you did. You should back up your computer daily. Before you leave the lab, you need to provide me with copies of all data files, statistical scripts, lab notebooks, and protocols (I discuss this below). Data fabrication or plagiarism are not tolerated. Remember that doing good science is about finding the truth, not making it up or publishing it in a high impact journal.
- 7. I expect you to keep a detailed lab notebook if you do lab work.** To meet our mission of doing reproducible science, you must keep a detailed lab notebook that includes all details and results. These will need to be archived in the Dantzer Lab when you leave the lab.
- 8. I expect that you will communicate your science.** This includes presenting your work at professional conferences (you should aim for at least 1 per year), informal seminars (our lab group, public talks, other seminar groups), social media (blogs or Twitter), and publications. Although there is no specific number of publications you should have before you finish your Ph.D., you should aim to have ~3 first author publications prior to leaving your graduate degree.
- 9. I expect that you get the most out of conferences and our meetings.** This means always presenting when you attend a conference, putting ample time and effort in preparing your presentation/poster, getting feedback from your peers, attending conference events, and making an effort to network with other attendees. This also means being prepared for our lab meetings and our individual meetings. I expect you to come to our individual meetings with an

agenda, make notes based upon our discussion, and to make “action items” when needed.

**10. I expect you to develop your mentoring skills & help manage field projects.**

There are ample opportunities to mentor undergraduates at UM and you should take a least one opportunity to mentor an undergraduate on something related to your research. Senior graduate students or post-docs should also help mentor junior students in the lab. If you participate in a field project, I expect that you will contribute to data collection, logistics, organization, and help mentor/manage field personnel. Remember that your work on a field project is possible because of those who came before you.

## Work/life Balance, Working Hours, and Holidays

### *General*

- You should have a life outside of science/academia. Do what makes you happy!
- I work outside “normal working hours” (9 AM to 6 PM) as I sometimes need to take time off during those normal working hours for other reasons. If I email you or send you a message on Slack outside of normal working hours, I do not expect you to respond (unless it’s an emergency).
- Many people work hard and spend lots of time in an office or lab but very few people know how to work efficiently. You should figure out how to work efficiently and work very hard in the time you spend in the office/lab/field (see [here](#)). Make the most of your time working so you can enjoy your time off.
- Expectations for working hours differ for undergraduates, graduate students, post-docs, and staff but they are also dependent upon personal circumstances. I am committed to understanding your unique situation so please communicate with me if we need to make exceptions.
- Family always comes before work so if you have a family emergency, let me know and we can plan accordingly.

### *Graduate Students & Independent Post-docs*

- I recognize that people are most productive at different hours of the day or in different places. You should work when and where you feel most productive but also recognize the value of interacting with other lab members and colleagues. If you only work at home or work in the office from 9 PM to 4 AM, you will not be learning from others and you will not be establishing new collaborations.
- Graduate students or independently funded post-docs can work when they want but ideally they spend a few days a week in the lab/office during peak working hours (11 AM to 4 PM).
- I do not expect you to work on weekends or holidays but this assumes you are working hard and efficiently during the work week.
- Working insane hours (60-80 hrs per week) is not healthy and may be unproductive but remember that working 40 hrs per week means actually working 40 hrs per week, not just being in the office/lab during those times.
- There are lots of time constraints when it comes to field work. Animals are only breeding at certain times of year so we need to maximize data collection. This means that field work can often require us to work more than 40 hours per week but this should **not** come at the expense of your physical/mental health.
- How you spend your time is up to you but you should discuss any holidays you are planning with me during your field season well in advance.

- Like me, you have different obligations (research, teaching, outreach) and you should prioritize your time based upon what you think will give you the job you want after you finish your time in my lab.

*Undergraduate Students or Staff and Post-docs I employ*

- Staff and post-docs that I am funding are expected to be in the office/lab from 9 AM to 5 PM as this maximizes the amount of time we interact with one another.
- I understand that medical or other appointments happen during business hours and feel free to schedule these during these times
- Undergraduate students are only allowed to be in the lab during normal business hours (9 AM to 5 PM).
- Undergraduates need to agree to work a specific number of hours per week in the lab and they need to keep careful track of those hours
- Holidays and time off for staff and post-docs should be discussed in advance.

## **Scientific Integrity, Transparency, Reproducibility, & Open Science**

- Academic or scientific misconduct is bad and will end your career. Don't do it...
- Any form of academic or scientific misconduct will not be tolerated
- Doing good science means finding the truth.
- Don't give in to institutional pressures to publish in high impact journals or publish as many papers as possible.
- We will not set out to find support for our pet hypotheses, omit data so as to find support for our favored idea, fabricate data, do shoddy statistics, or plagiarize the work of others.
- Remember we stand on the shoulders of giants. We want our work to be reproducible. This means that you should leave a trail so that someone in the future can reproduce exactly what you did.
- I expect you to be transparent and collegial with me and other students in the lab regarding your data collection protocols, data files, statistics, etc. Being a good lab citizen means sharing your code, data files, and protocols.
- Keep your data files organized, annotated, and back them up each day
- Maintain your lab/field notebooks and annotate your statistical scripts in such a way that someone else was going to read them in the future.
- We support open access and open science. Put papers on bioRxiv before they are submitted to a journal, put papers you have published (or preprints) on your webpage, maintain your code so you can share it with others (in the lab or outside of it), and publish your code if needed.
- We support sharing our data with others but this will be handled on a case-by-case basis as long-term data projects have different requirements for how we share data. I need to be consulted before sharing any data.
- Before each student leaves the lab, they must provide an archive folder for each project they worked on and must provide me with field/lab notebooks. This ensures all data are reproducible. Detailed instructions are given below.

## **Advice and Info Specific to Dantzer Lab**

*For all new personnel in Dantzer Lab*

- **Important Locations & Access Codes:**

- i. B212 is Dantzer basement lab, pass code is XXXX
- ii. 3468 is Core Assay Lab (EIAs), pass code is XXXX
- iii. 3469 is Core Assay Lab (RIAs), pass code is XXXX
- iv. 4038 is Ben's office

- **Communication Procedures**

- a. **Email**

- i. I prefer [Slack](#) (see below) for all communication other than sending me large files (manuscripts, grants, etc.) or forwarding me messages.
- ii. Slack and email don't work – need to stick with Slack
- iii. There are group emails to my group ([dantzerlab@umich.edu](mailto:dantzerlab@umich.edu)) and the Beehner-Bergman-Dantzer lab groups ([squirrlada@umich.edu](mailto:squirrlada@umich.edu))
- iv. I'll almost always respond to your emails within 24-48 hrs but sometimes it will take me longer. When I am going to be away from email, I will let you know

- b. **Slack**

- i. When you join the lab, you should install Slack on your laptop and mobile device and I'll send a request for you to join the different lab channels.
- ii. How do you use slack? Look at our *umlabsquirrlada* slack channel and if you scroll up to early on in the channel, you will see lots of links and tips for how to use it. Add some more if you find them!
- iii. Each person in the lab has their own slack channel where we primarily communicate with one another
- iv. The function of each slack channel is listed on the channel. Be sure to follow these rules so each slack channel is on track

- c. **Phone**

- i. Call me on my office number (734-615-2352) if you are in the lab
- ii. If there is an emergency, call me immediately on my cell phone (XXXXXX)
- iii. Texting me is reserved for emergencies and note that I am not great at paying attention to text messages

- **Lab or Field Emergencies**
  - a. There are phones located in each lab space in East Hall. Use them to call 911 immediately and let me know as soon as you feel safe.
  - b. We are all responsible for ensuring sample integrity and this means responding to an emergency if a freezer is broken or the power goes out. If East Hall loses power or a freezer breaks, there is an automated freezer alarm system (Sensaphone) that will notify you via text message and email. In the case you receive these messages, send an email or text to the lab group to ask what the problem is or if someone is using that freezer.
  - c. Field emergencies are covered in the specific safety protocol and plan relevant to the project you work on. If you are hurt in the field or in an accident in a vehicle, contact me on my cell phone as soon as it is safe to do so.
  
- **Lab and Field Etiquette:**
  - a. Clean up after yourself while you are in the lab.
  - b. Ensure drawers and doors are closed to prevent dust from contaminating the lab
  - c. Clean and run maintenance protocols on equipment in the lab (e.g., plate washer)
  - d. Ensure that all field equipment and vehicles are maintained properly and cleaned up while you are in the field
  - e. Remember to set an example for others. You are a professional and others look up to you.
  
- **Mistakes & Accidents:**
  - a. Mistakes happen in the field or lab! I understand these happen but it is important that you acknowledge them and let me know about them
  - b. If you break something in the field or lab, let me know and we will get a replacement
  - c. If you damage a field vehicle, you must notify me immediately or at least within 24 hrs as we need to do paperwork
  - d. Mistakes or errors in publications can happen. If you make a mistake in a publication, we need to correct them immediately and move on.

- **Individual Meetings & Lab Meetings:**
  - a. We will meet once per week for your first two years and then either once per week or once every other week thereafter (up to you). We have weekly lab meetings with the Beehner and Bergman labs (covered elsewhere).
  - b. Prepare for our individual meetings. Come up with an agenda or list of questions you want to talk about.
  - c. If you want me to read something and give feedback, give me 1-week notice
  - d. If you have nothing you want to talk about, we don't need to meet
  
- **Reading:**
  - a. Sign up for electronic TOC alerts in your study area. If you want a list of journals to subscribe to, ask me.
  - b. Keep informed of general science news by subscribing to eTOC alerts to Science and Nature.
  - c. Schedule a time each week (or day) and read papers
  - d. Read 3 or more papers per week.
  - e. If you are taking classes, read within your subject area. Once you are done with classes, read broadly
  - f. Curate your PDFs using a program (Mendeley, Papers 3, Zotero, etc.)
  - g. Keep track of what you read and keep notes on the papers
  
- **Social Media**
  - a. Upon joining the lab, you should set up profiles at Google Scholar, ResearchGate, Twitter.
  - b. There are demonstrable benefits to you for being on Twitter! You should make it a habit to tweet a few times a week and get involved on social media
  - c. Remember that you are a professional and should treat people respectfully
  
- **Webpage:**
  - a. When you join the lab, you should set up your own webpage and link your new/existing webpage to my lab page.
  - b. it is helpful for me to have an image of you, a brief description of your research interests, a link to your webpage, and a Twitter handle so I can put them on my page.
  - c. You should write your CV and send it to me so I can put it on my webpage
  - d. If you want me to add something to my webpage, please just ask

- **Professional Societies:**
  - a. Join those societies you find interesting. If you want advice, ask me
  - b. You can't be heavily involved in all societies but pick one you have an interest in and maintain your membership throughout your graduate career
  - c. Join societies that offer awards to graduate student members
  - d. Use your debit funds from UM to pay for society memberships
  
- **Finances & Purchasing Supplies or Equipment**
  - a. I want you to have all the office and computing supplies you need to do your research, ask me if you need anything or use your debit funds to make those purchases
  - b. Plan ahead for purchasing supplies and equipment especially before going to the field – it can take lots of time!
  - c. Before you purchase something, tell me the details of what you need, why, what research you did to find the cheapest price
  
- **Travel & Field Expenses**
  - a. I usually purchase your flights for field work or other conference travel as this means you don't need to loan the money to purchase the flight.
  - b. If you do make your own flight arrangements, you will need to buy it on your own and I expect you to choose the cheapest flight You will then need to get reimbursed but this usually only takes 3-5 business days or less.
  - c. Remember that any flights purchased using funds from NSF need to use a domestic/US carrier
  
- **Mentoring Undergraduates or Field Technicians:**
  - a. Mentoring students or training technicians is a privilege and remember that it is a lot of work to properly mentor and train students/technicians
  - b. Create an inclusive environment and any form of harassment or discrimination will not be tolerated
  - c. Act professionally, be a leader, and set a good example by working harder than all of your undergraduates and technicians
  - d. There is a separate undergraduate handbook that all undergraduates must read and sign indicating that they have understood all the material
  - e. Ensure that all undergraduates or technicians have completed any lab/field safety courses

- f. Closely supervise undergraduates all undergraduates
- g. Regularly meet with undergraduates to discuss progress, expectations, and ensure they understand what they are supposed to be doing
- h. If they are a non-UM student and not employed by UM, they need to sign a Department of Psychology volunteer form  
<https://lsa.umich.edu/psych/resources/volunteer-form.html>

## **Writing, Authorship, & Publications**

*For all new personnel in Dantzer Lab*

- **Publications:**

- a. If your research is funded by me, you should acknowledge that it is partly due to all the work (especially publications) that has been done by those before you. You need to help make sure the next cohort of students is funded by publishing your own work.
- b. Do it early but do it well.
- c. Publish high quality papers, don't maximize the number.
- d. You should aim for two first author publications by the beginning of your fourth year and three before the end of your Ph.D. program
- e. I will do my best to help you publish your first year (619) project
- f. I encourage you to collaborate with others on manuscripts but I will also remind you (if needed) that your own work in my lab needs to have priority.

- **Authorship:**

- a. Discuss authorship decisions at the beginning of a project
- b. Authorship needs to be discussed with me. Generally, I think authors are those that have done the following:
  - i. Made substantial contributions to the initial concept or design of the study, the acquisition, analysis, or interpretation of data for the study
  - ii. Helped to write manuscript or helped in the revisions
  - iii. Approved the work for publication
  - iv. Be fully accountable for all aspects of the work
- c. Generally speaking I do not think field or lab technicians are co-authors on manuscripts and undergraduate co-authors will be discussed on a case-by-case basis.
- d. I expect to be last/senior author on your publications that come out of my research group and in some cases I will request to be corresponding author
- e. If you haven't published research from your graduate program within 2 years after leaving the program, I reserve the right to move ahead to publish the work. In most cases you will be included as a co-author but not always the first author. In all cases we will attempt to contact you through email, phone, or other means but if you do not respond you will need to be removed as an author as all authors must approve submission.

- **Writing:**
  - a. To become a good writer, you need to practice
  - b. I am not formally trained on how to write so I will rarely tell you what is the right or wrong way to write. I may give you suggestions or try to rephrase something for clarity.
  - c. I do have some specific suggestions about writing:
    - i. Make every word count. Be concise. Eliminate every extra word.
    - ii. Always avoid jargon. Make it interesting to a general audience.
    - iii. Don't use "However" multiple times in the same paragraph.
    - iv. If you use one word to describe something in a manuscript, be consistent throughout the rest of the manuscript
    - v. Typos and mistakes are inevitable but you should pour over your manuscripts before they are published to avoid mistakes
    - vi. Do not cite a paper you haven't read
    - vii. People are lazy - tell the reader what the paragraph is about in the first sentence
    - viii. Rarely is it worthwhile to describe your work as "novel" "the first instance of x" or otherwise devote praise to this or your previous work.
    - ix. Write captions to figures/tables so that the publisher of a textbook could lift out the figure/table plus caption and all other readers could understand them.
    - x. It is almost never worthwhile to abbreviate something
    - xi. "Use" is always better than "utilize".
    - xii. Species names are singular not plural. So if you say "*Sciurus vulgaris* eats..." what you mean is "individuals of *Sciurus vulgaris* eat..."
    - xiii. Writing is hard. Start with the Methods and then write the Results. Start writing the Introduction by just thinking that it has three paragraphs (introduction, knowledge gap, what you did)
    - xiv. Titles should be short and self-explanatory
    - xv. Have your peers, your siblings, or anyone else critique your writing
    - xvi. When you write your Results, focus on the biology of your results not the statistics. What are the biological conclusions you can make if there is a significant statistical interaction between two variables? If you can't explain it, something is wrong.
    - xvii. When you have your first draft of your manuscript, figure out what percentage of words are in the Introduction and Discussion. The Discussion can be slightly longer than the Introduction.

- d. Realize that many people in academia aim to write a minimum number of words per day or per week (papers, grants, blogs, etc.). Practice, practice, practice
- e. There are many resources out there to become a better writer, you might pick some of these books up:
  - i. *The Elements of Style* (Strunk & White)
  - ii. *The Scientists's Guide to Writing* (Heard)
  - iii. *Writing Science in Plain English* (Greene)

## **General Advice for Graduate Students**

*For all new graduate students in Dantzer Lab*

- **Advice from others:**

- a. There are many pieces of advice out there for graduate students, you should read them but you don't necessarily need to follow them or heed their advice. One set of recommendations does NOT fit all!
- b. Spencer Hall (Indiana Univ.) has a great set of resources on his webpage (<http://www.indiana.edu/~halllab/grad-student-resources.html#gradstudent>), you might read some of them or at least the classics (Steve Stearns *Modest Advice* and Ray Huey's reply to Stearns)
- c. Dorsa Amir has a great set of resources here (<https://medium.com/@dorsaamir/modest-advice-for-new-graduate-students-b0be6b8dbc22>)
- d. Joan Strassman has answers to all of your questions (<https://sociobiology.wordpress.com/2012/02/12/choosing-a-ph-d-program-whats-important-and-whats-not/>)
- e. Jeremy Yoder has some great [ideas](#) about what you learn during graduate school and he brought together many other ideas and suggestions [here](#)

- **My own advice (in no particular order):**

- a. Don't go to graduate school unless you are 100% committed to it. Work on something that you are passionate about and with someone who cares about you or at least treats everyone with kindness.
- b. Take care of yourself. Sleep, eat well, exercise, do what makes you happy. These are habits of productive people!
- c. You have many tasks but know your priorities. Every day think about what you are doing to get the job you want. If you want a career in research, invest in other tasks accordingly.
- d. Do the hard work (reading, writing, research) in the morning and save the other tasks for later in the day.
- e. Few of us can be the best at everything but you can excel in one area and do a good job in the others.
- f. Find a way to make yourself read papers nearly every day
- g. Be passionate about what you are doing. If you don't like what you are doing, why are you doing it?
- h. Google is a wonderful tool that can give you lots of advice on how you should make a poster presentation, give an oral presentation, or write

- manuscripts. Seek out this advice and input but formulate your own way of doing things. Be unique but know what others are thinking.
- i. Sketch out the figures that will be in your publications beforehand – this helps you to figure out what data you need to collect and what analyses you will need to do
  - j. When you defend your dissertation, be the expert on your subject
  - k. During graduate school, you should acquire some hard skills (lab skills, analytical skills, etc.) but you should not view graduate school as an opportunity to just add lines to the list of your skills. Think big picture – do you know the literature and can you generate interesting research questions?
  - l. Use apps to keep you organized (Evernote) or just an old fashioned organizer to keep you on track
  - m. Collaborate with other graduate students and build your professional network at conferences.
  - n. Start a journal club or run your own seminar group.
  - o. Meet with all seminar speakers. Go out to lunch with them, set up meetings, know what you are going to say to them. Network
  - p. Set up a timeline for your work and meet your own deadlines.
  - q. Procrastination is a common problem. Figure out strategies to overcome it. There are lots of books on this subject!
  - r. Recognize that we stand on the shoulders of giants and acknowledge the work of those that came before us. Seek out the giants in your field or emeritus professors and ask for advice or just talk to them.
  - s. Know the history of your field. Do not cite the most recent example of phenomenon x if phenomenon x was discovered and appropriately documented 45 years ago.
  - t. Read books by experts on your subject and remember to read the classics too.
  - u. When you respond to reviewers for a manuscript, don't be jerk. Nearly all of them are trying to help you improve your manuscript. We are all busy and sometimes we miss things so do not focus on what they have overlooked. Use that as the impetus for you to highlight things better.
  - v. When you review manuscripts, remember the motto that "any jackass can kick down a barn, but it takes a good carpenter to build one." Give a few positives and provide suggestions and constructive feedback.
  - w. Communicate your science to other academics but also the general public. Practice science communication & be a science ambassador

- x. Everyone has imposter syndrome especially at the beginning of graduate school. Everyone else seems so smart! Find your groove and your niche and stick with it.
- y. Everyone fails and you will likely receive negative feedback. Focus on your successes and try and to quickly overcome your failures and be positive.
- z. Graduate school is hard and only has delayed rewards. Remember that you are going to pass through stages where you don't know if you want to continue in graduate school. Everyone experiences those moments. The important thing is to keep moving and recognize that those rewards will come.
  - aa. Celebrate successes but start thinking about what your next successful step is going to be the next day.
  - bb. Always remember that you are ultimately in charge of your career and responsible for your graduate degree but I and all the other faculty or informal advisors you have are here to help you and want you to succeed.

**Example Funding Plan and Course Outline for Graduate Students in the  
Biopsychology Area**

**Funding Plan:**

<b>Year</b>	<b>Fall</b>	<b>Winter</b>	<b>Spring/Summer</b>
2015-2016	Fellowship	GSI + Fellowship	Fellowship
2016-2017	GSI	GSI	Fellowship
2017-2018	GSI	Fellowship	Fellowship
2018-2019	GSI	Fellowship	Fellowship
2019-2020	GSI	Fellowship	----

**Coursework Plan:**

<b>Year</b>	<b>Fall</b>	<b>Winter</b>	<b>Spring/Summer</b>
2015-2016	613 – Stats 462 – Epigenetics 731 – Biopsychology Teaching Academy	614 – Stats 534 – Animal Cognition 506 – Ethics <i>(GSI – Animal Behavior)</i>	Field work
2016-2017	630 - Primatology 471 – R stats <i>(GSI – Animal Behavior)</i>	988 - Evolutionary Social Psychology Journal Club 619 Presentation <i>(GSI – Intro to Biopsych)</i>	Field work
2017-2018	<i>(GSI – Animal Behavior)</i>	Lab work/Field work	Field work
2018-2019	<i>(GSI)</i>	Lab work/Field work	Lab work
2019-2020	<i>(GSI)</i>	Lab work? <i>GSI?</i>	----

**Curriculum & Course Requirements for Biopsychology Ph.D. Students**

*Note – there is complete flexibility when it comes to what courses you take – it's up to us to decide*

1. 619 – First year project and oral presentation
2. Required Proseminar in Biopsychology (PSYCH 631)
3. 3 advanced lecture or seminar courses relevant to biopsych (at least 2 at 600-level or above)
4. Attend Biopsych colloquium
5. Departmental breadth – area besides biopsych, prior to candidacy
6. Sequence of stats (613-614)
7. Cognate courses – 4 credits
8. Prelim exam (typically end of 2<sup>nd</sup> year)

## Policies on Data Management and Curation

- **Data management & organization**
  - a. UM provides unlimited cloud space using box.com. Sign up for an account through your UMich ID and password and ensure that all of your research files are also synced to box.com
  - b. When you join the lab, I will set up a shared box.com folder for us to archive shared files.
  - c. You should purchase an external hard drive and back up your computer each day. Use an automated program to do this. These can be provided by me or you can use your debit funds to purchase external hard drives
  - d. While you are in the field, I expect that you will use an external hard drive and back up the data every day.
  
- **Policy on Data Archiving:** Before you finish (i.e., *before I sign off on your thesis/dissertation*) you must provide me with electronic copies of all of your field protocols, a copy of all of your data, an associated metadata file explaining all of your variables, any data modifications or calculations, statistical analysis scripts, and all field or lab notebooks. This is so I can properly archive copies of your work to ensure what we are doing is reproducible.

### **Here is a detailed outline of the things that I will archive on Box.com**

- i. StudentX Final Archive Folder
  1. Read me File
    - a. Give an overview of your timeline in my lab
    - b. Give a bulleted list of projects you worked on in my lab
    - c. Describe what each folder contains
  2. Mentoring Plan
    - a. Individual mentoring plan
    - b. Written annual reviews
    - c. Any individual “improvement” plans
    - d. 5 year Course and GSI plan
      - i. Indicate what courses you took and when
      - ii. Indicate what courses for which you were a GSI and when

3. 619 Plan & Project
  - a. 619 Project Outline
  - b. 619 schedule of activities
  - c. Final 619 write up
  - d. Final 619 presentation
  - e. Final 619 Data
    - i. Spreadsheets of data
    - ii. Read me (text) files that show and describe each and every variable
  - f. Final 619 statistical analyses
    - i. Annotated R scripts for each analysis
    - ii. Ensure that these work so I can run the scripts on my computer
4. Grant applications
  - a. Final copies of any of your grant applications
5. Presentations
  - a. Final copies of abstracts you submitted to professional conferences
  - b. Final copies (.pptx) of oral presentations you did either at professional conferences or other informal ones
  - c. Final (.pptx) copies of posters you presented
6. Thesis/Dissertation
  - a. Final copy of your thesis/dissertation proposal/prospectus
  - b. Final copy of your thesis/dissertation
7. Protocols Folder
  - a. Data collection protocols
    - i. You should write up a protocol for any experiment or data collection you did in the field or lab. Be thorough
  - b. Animal care protocols
8. Projects Folder (need one of these for each project you work on)
  - a. Project Name 1
    - i. Data Folder
      1. Data.xls
      2. Metadata.doc [Document describing what all variables mean]
      3. Notes (anything you want to add)

- ii. Analysis Folder
  - 1. Protocols for data manipulation.doc [including the analysis of any existing long-term data]
  - 2. All final R coding for analysis.txt
  - 3. Output from final analyses.txt
  - 4. Notes (anything you want to add)
- iii. Manuscript
  - 1. Initial submission of manuscript
  - 2. Reviews and responses to reviewers
  - 3. Final copy of manuscript that is published (in .docx)
  - 4. Notes (anything you want to add such as history of manuscript submission)

b. Project Name 2

- i. Data Folder
  - 1. Data.xls
  - 2. Metadata.doc [Document describing what all variables mean]
  - 3. Notes (anything you want to add)
- ii. Analysis Folder
  - 1. Protocols for data manipulation.doc [including the analysis of any existing long-term data]
  - 2. All final R coding for analysis.txt
  - 3. Output from final analyses.txt
  - 4. Notes (anything you want to add)
- iii. Manuscript
  - 1. Initial submission of manuscript
  - 2. Reviews and responses to reviewers
  - 3. Final copy of manuscript that is published (in .docx)
  - 4. Notes (anything you want to add such as history of manuscript submission)