Welcome to the Rogers Lab!
First, congratulations on getting into the PhD program at UNCC!! I am sure you are happy and proud. There is a lot of exciting research ahead of you. If you work hard and learn new skills, you should be able to finish your PhD with all the skills you need to do great things with genome sequencing data. The Rogers Lab works on the evolution of genome structure changes, duplications, and transposable elements. These mutations are really good at creating new genes where there weren't any genes before. We study how these genes interact with natural selection and how they may form the basis for evolutionary innovation. We study these mutations in lots of different animals. Your exact project will depend on your research interests, available data, and funding for new work. Hopefully you and Dr. Rogers can find a project both of you are interested in that will be the start of a thesis.

What does a successful PhD look like? Publish or Perish. Preferably Publish.
In your PhD, research is the most important factor in career success. The more research papers you have, the more successful you are. Grants, awards, classes, and conferences may help you with your research. Ultimately, these have to be backed up with peer reviewed publications for the field to consider you successful. Your goal in your PhD is to produce at *minimum* 3 first-author papers. Your committee is unlikely to allow you to graduate otherwise. Some papers may be small, others may be big. Highly collaborative consortium work may be considered equivalent to first author work if you took the lead on a significant part of a very big multi-lab partnership. If in doubt, discuss it ahead of time with Dr. Rogers. You may want to find some minor author collaborations along the way. These should enhance, not detract from your first author work. They may help complete your CV, but they will not be considered by the field as the same kind of research success as your own individual work. At the end of your PhD your success in landing postdocs, fellowships, and even eventual faculty or industry jobs will depend on your first-author work. It is the most important thing that you will do.

What are the expectations for effort?
UNCC expects PhD students to average 40 hours per week on their PhD. Some of this time will be spent in classes. Some weeks there may be less to do than others. If you are waiting for code to run or for flies to grow, it is ok to take a break then. If the work is waiting for you, putting in the hours is the only way to make progress on your PhD. Classes are important because they give you skills to do research. You should put in enough time to master the material. If a class is directly related to your research, you may want to put more effort there than if a class is not related to your work. Correctly setting your priorities so that you put in time where you will be rewarded is an important part of gradate and career success. You need to meet the requirements of all your commitments. Do not let these commitments detract from your research for first author publications. The person who yells loudest is not always pulling you towards the work that will pay off for your career.

Keep your focus in the places where it most needs to be. If you are spending less than an average of 20 hours on your research, talk with Dr. Rogers about how to best balance your commitments so you can focus on research. If you are not working as a TA and are not taking

classes, you should average 40 hours on research. Some days may require more time. Some days may require less. **Your thesis is the most important thing for your own career.** You should be working on it whether Dr. Rogers is in town in her office, working on a grant outside her office, or off traveling to visit collaborators and conferences. A week with no progress at all will cost you a lot and lengthen the time it takes to get your PhD. If you run into a situation where you absolutely cannot put in research time for more than 1 week, talk to Dr. Rogers, Dr. Gibas, and Dr. Mays about how to petition for a leave of absence. If you are not averaging 40 hrs per week on research, classes, seminars, and journal club, you are not meeting the terms of your stipend.

Dr. Rogers can help with stats. She can help with molecular biology. She can help with coding or writing. Dr. Rogers cannot make you care. She cannot force you to run your code. She cannot send you back in time to spend your work hours more wisely. You are responsible for your own effort. All the power to succeed or fail is in your own hands.

What is the goal of your PhD?

The goal of a PhD is to learn to answer questions and find new knowledge. You may need to learn about new tools or code along the way. You will likely need to use new technology or lab techniques. Ultimately, the goal is to find a question that is important but hasn't been solved yet. By the end of your time in the lab you should be the world's expert on your topic, whether you have been looking at TEs in elephants or new genes in freshwater bivalves. You should look at your topic from every angle you can think of. Look up the genes in a database. Read the papers that have been written about what your genes do. Learn from other studies on a similar topic in similar animals. As you read, think about the questions you can ask about the topic and what type of data you would need to answer that question. Design the outline of an experiment or analysis that could help you answer that question. What input and outputs would that experiment have? How would the results look different when you use different data or different tools? When someone asks you questions about your organism or your mutations, you may not know the answer to all of them. You should be able to tell people what you know that might help them find the answers later. Your thesis is your own. It represents the body of work driven by your curiosity that defines your career.

When and how do I get help?

Lab meeting is every 2 weeks. You should be prepared with an update on the work you have done in this time. On the off weeks, you will have individual meetings with Dr. Rogers for more detailed help with your work. Both lab meeting and individual meetings are mandatory. Do not skip them unless you are ill or out of town. If you need to reschedule, email ahead of time. If you have run into problems with analysis, bring your questions with you. Be prepared to explain what you have tried and why it did not work. If you have searched for solutions online, explain what you have found so far. It is ok not to have solutions, so long as you have put in some effort to solve them. Setting code to run with solutions you have found in meetings right after the meeting can save you months or more over the course of your PhD. Likewise, submitting long-running code before bed so you can process it the next morning will help you make progress.

Running your code is the best way to find problems in your code. A lot of problems can be solved more easily with The Internet. Make at least some attempt to search for an answer on your own. Most code will offer error messages that you can search online. If you run into a serious problem, feel free to email or Slack Dr. Rogers with questions. A brief 5 min message session can do a lot to put you back on track. If your problem takes more time, we will schedule a meeting to fix it. It is strongly recommended that you update Slack with your results as they happen. It creates an organized record of the progress on your project and makes it easier for you to keep Dr. Rogers on track with your work. Students who hide from their advisors when something is not working generally take longer and do poorer work than students who discuss the problem and get help. Sometimes research just does not work the way we expected. That is ok. We will either find a way to fix it or find other work that is worth doing. Know that this is normal and keep trying to find solutions if you can.

Communicating Science

You will be drafting manuscripts during your career. It is likely that these manuscripts will require more than one round of revisions. It is ok to send Dr. Rogers a manuscript that is unfinished or that needs help with the language. Do not spend three weeks "perfecting" language in the first or second draft. There is a good chance that paragraph is going to be deleted or rearranged during revisions. Get words on the page. Make the graphs, and ask for help often. Dr. Rogers may ask for updates or partial drafts as you write. You can always schedule meetings to talk about how you are organizing the manuscript.

When you are writing:
-Start with figures
-Next do methods
-Get words on the page
-Edit your own writing
-Ask someone else to edit and rewrite
-Be prepared for multiple drafts
-Writing takes time

Helpful activities

Journal Club and Bioinformatics seminar is mandatory unless you have a specific conflict. Hopefully the meeting time will be scheduled when you can come. You should come having read the paper (maybe you skim it every now and then). These seminars and discussions will help you learn about other research that is happening in the field. The best way to figure out how to do your research is to find a method that someone else has already gotten to work. It will also help you learn to think critically about research design. If the seminar speaker is in your field, you should make every attempt to go to lunch with them.

You may attend a few conferences during your graduate career. This is another way to figure out what other people are working on before they publish. Conferences are the best way for you to

meet other researchers you might want to work for in the future. If Dr. Rogers is there, she will likely introduce you to people. Pretend you are not shy even if you are. This is your big chance to meet other folks working in the same field. Do not skip lunches, dinners, or happy hours with your colleagues. This is where collaborations are built. If you do not drink, go to the bar with them and order a soda. Have fun, but remember that these are professional contacts. Bring a notebook to the conference so you can remember what was said at the talks. You will also find it helpful to write down your own thoughts or ideas about the talks. Enjoy meeting your colleagues and hearing about their work.

Interactions with lab members

Your fellow lab members are your colleagues. You are expected to treat them with respect. You may be asked to help them with their work if they need to try a skill you already know well. If you are, hopefully you can help train them. This will improve your knowledge, communication, and CV if you are helpful to others. When we all work together as a team, our colleagues' success reflects well on all of us. If other students succeed, you will look better and have more opportunities because of your association with them. Remember that gossip will travel. People are aware of each other's reputations and will choose to work with the most helpful colleagues. If you have an ongoing conflict that is affecting your ability to do your work, discuss it with Dr. Rogers, Dr. Gibas, the University counseling center, the University Ombudsman, The Office of Research Integrity, or the Title IX office. The Ombudsman, Office of Research Integrity, and Title IX office only handle serious violations of university policy. They may be very helpful if you encounter bad actors. You are expected to uphold research integrity, policies preventing harassment and discrimination, and professional behavior toward your colleagues. Any relevant complaints against you will be referred to these offices. We hope you never need to use them.

Writing your thesis

You have probably heard stories about how writing your thesis is the hardest part of your PhD. It shouldn't be. If you publish as you go, the thesis will just be a matter of stitching your papers together. You will probably need an introductory chapter with a review of the literature. This chapter should explain the place of your work in the field. You may want to turn this chapter into a review article, but it won't be the main point of the thesis. The chapters will be the publications you have produced in your thesis work.

You should aim for at least 3 first author papers. If your work is part of a consortium, you may not be first author but should be equivalent work to first author on smaller publications. Two of the three papers should already be published or under review before you leave. The third should be preprint ready. It may take time for the papers to work their way through the journals. That's ok. Just remember *your* career hinges on these works going out into the world. You have a vested interest in doing the necessary revisions to publish them even after you leave the lab.

I, _____, have read this document and am enthusiastic about working in the Rogers lab.

Signed:

Dated: