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Dear prospective graduate student,

Thank you for your interest in the GEMM Lab. Graduate school is no minor choice as it shapes your future career path. Likewise, it is important for professors to choose grad students carefully to assure intellectual, philosophical and personal compatibility. Therefore, I have written this essay to summarize what I look for in graduate students and what you can do to increase your chances of joining my lab. It is important to recognize that I receive many inquiries and have few opportunities for graduate students. Therefore, it is in your best interest to read this essay closely (its long, I know, but I have put a lot of effort and information into this to help you), and then prepare a well thought out and organized package when you contact me about graduate school.

Graduate school can be rewarding and grueling (in all honesty you don't get paid very much and you work long hours), so it's important you embark on this journey for the right reasons. I suggest thinking hard about why you want to go to graduate school, what do you want to get out of grad school, what is your career plan and will grad school (in the GEMM Lab) help you achieve that goal? I feel [this post](#) by the Society of Marine Mammalogy is a very good read and resource for prospective graduate students.

I view graduate school as an opportunity for students to gain valuable new skills and experience that will help you advance your career, grow as a scientist, make an impact on science or environmental management. I invest my time and energy in grad students, and therefore expect full commitment by my students to the GEMM Lab, and their program, classes, and research. I am interested in students who are self-motivated and with research interests that align with my own. Due to the focus of my lab on ecology, health, and conservation of marine megafauna, I am particularly interested in students with strong analytical skills, previous field and technology experience, and a strong foundation in ecology, oceanography, physiology and/or management.

I am currently interested in prospective graduate students who

- 1) Propose research projects that enhance or extend my current research portfolio (<https://mmi.oregonstate.edu/gemm-lab/research-projects>)
- 2) Are from diverse, minority, and underrepresented communities (including first-generation college graduates; note that being a woman is insufficient in this regard).
- 3) Have skills in some of the following areas that can complement my lab's current work:
 - Spatial analysis
 - Species distribution modeling
 - UAS operations and imagery analysis
 - Zooplankton identification and analysis

- Coding, data management, or statistical analysis
- Endocrinology and physiology
- Behavioral ecology
- Sensory ecology
- Machine Learning (AI) applications to imagery

[You should note that “field work”, “boat driving”, and “SCUBA” are not skills or previous experience I am necessarily looking for in new graduate students. These are good and important skills that I like to see in students, but do not set you apart from the crowd. These data collection aspects of science are only one part of the scientific process.]

When approaching me as a prospective graduate student in my lab, students should have a clear project idea they want to pursue, theory they want to test, or methods and technology they want to develop. While the project idea does not need to be exact, it should be feasible, based on a solid foundation of existing knowledge, and aim to advance the field or management efforts. I expect prospective students to closely examine what research and outreach the GEMM Lab is currently conducting (review our website and published papers). I like to see students who demonstrate initiative by suggesting ways to expand our work and impact. I am also very interested in projects that have a clear conservation or management application, incorporate outreach (educate others), and include engagement (incorporate others into the project).

I feel that it is integral to your success and the scientific process that all research is published. Otherwise, effort and money are wasted, animals are burdened for no reason, and no knowledge is transferred to the community. I typically expect my master’s students to publish at least one peer-reviewed paper (out of a 1 or 2 chapter thesis) and my PhD students to publish three papers (out of a 4 or 5 chapter thesis) based on their thesis research. My students must also attend scientific conferences (local and international) to present their work and represent the GEMM Lab/MMI. Additionally, I expect all my students and post-docs to contribute to the [GEMM Lab blog](#), where we make new posts every Monday (reading through blog posts is also an excellent way to find out more about our work and people). Science communication, through formal and informal pathways, is a critical element to impactful science and an important component to a successful career. Through these pathways, I hope to help you develop the necessary skills for effective science communication.

Funding is also a critical component to graduate school. There are three components that must be supported during graduate school: tuition, stipend (living expenses), and research support. Often multiple sources are combined to support these costs from scholarships, fellowships, research grants, and research assistantships (funded through my own research grants to work on specific projects). Please note that it is impossible for me to take on a student without having a secure funding plan. A Master’s program is typically 2 to 2.5 years long, and at least 1 year of secured funding is needed before enrollment is possible. A PhD program is typically 4 to 6 years long, and at least 2 years of secured funding is needed before enrollment is possible. I am continually pursuing funding for various research projects, with many proposals including dedicated funding

support for graduate students to assist with the research. These Graduate Research Assistantships (GRAs) are sparse and competitive. I also can support one graduate student each year through a Graduate Teaching Assistantship (GTA) and another student each year through a prestigious Marine Mammal Institute (MMI) Fellowship. All these funding options are limited and competitive, and are distributed at my discretion based on who I think is most deserving and will enhance the GEMM Lab.

Graduate students can also be supported through external funding that they acquire through fellowships, scholarships and awards, such as the [National Science Foundation graduate research fellowship program](#) (NSF GRFP; keep in mind that this one is very competitive; there are more scholarships out there, you just need to look). If you do gain external funding support, please let me know the details (i.e., how many years, tuition and/or stipend supported) and we can further discuss opportunities for you, if you fit within my lab. I can occasionally work with outstanding prospective graduate students to develop a solid NSF GRFP research proposal, which are due in mid-October each year, if I am contacted with enough time to interview you and contribute effectively (see timeline below).

Please be aware that in addition to my agreement to be your supervisor, you must also be accepted into the [OSU graduate school](#) and the [Department of Fisheries, Wildlife and Conservation Sciences](#). Therefore, please make sure to visit the Department of Fisheries, Wildlife and Conservation Sciences [website for graduate students](#) and thoroughly read about the graduate school programs, courses available, and application process. You should ensure that this Department fits your career objectives.

If you are interested in working with me and my lab, please give thought to my advice above and I encourage you to send me an introductory package with the following materials (via email: Leigh.Torres@oregonstate.edu):

- 1)** A cover letter that outlines your research interests, current skillset and the skillset you wish to develop, career goals, and personal background. Keep in mind that grad school is a two-way street, so while I want to know what you want out of your time in my lab, it is also important for me to consider what you will bring to my lab. Please tell me about your unique skills, outreach, knowledge, experience, and background that set you apart and will enhance the GEMM Lab. If you are a diversity candidate (see point 2 above), please highlight this aspect. Please include a brief description of the research project you would like to undertake and why. Also outline your funding plan to support your graduate career. Note that it is not enough to hope for a GRA, GTA, or fellowship. I want to see that you have invested time and thought into potential funding avenues.
- 2)** Curriculum vitae (resume) summarizing your work and academic experience, and publication record.
- 3)** Names, addresses, telephone numbers, and emails of 3 references
- 4)** Unofficial copy of your undergraduate transcript

Please combine items 1-3 into single PDF file. Official copies of transcripts are not needed for a first inquiry. (If you would like to include your GRE scores, please report them on your CV, but this is not required).

If your application is competitive, I will contact you for an interview. Please be aware that I am often overwhelmed with applications, and therefore review applications in batches three times a year, following this timeline below with application deadlines:

- September 1 (to select graduate students to assist with NSF GRFP application)
- December 1
- April 1

If the interview goes well, I will also encourage you to visit the main campus of OSU and the Department of Fisheries, Wildlife and Conservation Sciences in Corvallis, and my lab at the Hatfield Marine Science Center (HMSC) in Newport. (My students typically split time between the two campuses as needed for research and classes, but please note that I expect all my students to spend a majority of their time in Newport and work in the GEMM Lab.) These personal visits will give us the opportunity to talk in person, allow you to meet my current students, visit with other faculty in the department, and assess if you like the campuses and towns.

Thank you for your interest in OSU and the GEMM Lab. I look forward to hearing from you and good luck in your career.

Cheers,



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