

Guidelines for the Presentation of the Dissertation Proposal in the Neuroscience Graduate Program

Goal: The dissertation proposal process is designed to facilitate the ongoing formulation of your doctoral research project and to provide a format for you to receive feedback on that project early in its development. Please keep in mind that this is not an exam. Instead, it is an opportunity for you to formally present your plans to your dissertation committee and the larger NGP community, and to obtain feedback on your ideas. Another way to think of it is as a more formal version of what will become ongoing dissertation committee meetings, but with the added flourish of your giving a public presentation as well.

Timeline: Your dissertation proposal presentation occurs after you have successfully completed your qualifying exam. Since the qualifying exam should be completed by the end of the Spring semester of the second year (4th semester), and since your qualifying exam proposal is based on your projected dissertation project, your dissertation proposal should take place no later than the Fall semester of your third year (5th semester). We understand that research sometimes progress at unpredictable rates and so there is some flexibility in the timing, however delays will only work to your detriment in the long run. We therefore ask that any delays beyond your 5th semester be approved by your advisor and the program director (Tony M.).

Process: Your goal is to prepare a formal dissertation research proposal and then give an oral presentation of that proposal to your dissertation committee and the NGP community. Guidelines for preparing the proposal are given in the Proposal Format section below. The finished proposal should be submitted to your committee and to the NGP office (neurogp@uvm.edu) no less than two weeks before the scheduled presentation/meeting. *The electronic proposal will be made available to NGP faculty upon request.*

Your proposal will be evaluated by your Dissertation Studies Committee, which consists of a minimum of four University of Vermont faculty members, all regular members of the Graduate Faculty. One member is your dissertation advisor. The committee chair should be from outside of your mentor's department, although technically there is flexibility with that. Please see me (Tony M) if you have questions. While development of the dissertation proposal relies on collaborative discussion with your dissertation advisor, you should feel free to consult with members of your committee too since they can provide valuable insight early in the process.

On the day of your presentation, the Dissertation Studies Committee will attend the public oral presentation. The structure of the oral presentation is that of a typical research seminar followed by a question and answer session. There is no expectation that you will have copious amounts of data to show at this point, although the hope is that you will have some. Instead, the focus should be on presenting your proposed PhD research

project plans. After the oral presentation, you and your dissertation committee will meet in a closed-door session lasting approximately one to two hours. The goal of the closed-door session is for you to discuss the project with your committee and for them to provide constructive criticisms and advice. Although **this is not an exam**, the committee will provide a formal assessment of the proposal as described below.

Assessment: Since this is typically the first official meeting between you and your dissertation committee, we ask that the committee provide a formal assessment of the oral and written portions of the proposal. The assessment is designed to provide rigorous and detailed feedback at this early stage of your project. The assessment choices are as follows:

- **Approve:** The concepts and hypotheses are clear and well thought out. The experiments are well designed, technically feasible and of a size and scope suitable for a doctoral thesis. Overall, the proposed studies would lead to at least one publication quality research chapter in a successful doctoral dissertation.
- **Conditionally approve:** The proposal is heading in the right direction and, with changes recommended by the committee would be a suitable dissertation project. The committee will provide you with detailed guidelines on what they are looking for in a revision. We recommend that one month be given to make the changes and that the committee consider your timeline preference, although the final timeline is at the discretion of the committee. The revised proposal should be submitted to all committee members. It is up to the committee to determine whether a second meeting is required or whether approval can be granted by email.
- **Request extensive revision and re-evaluate:** The proposal has major flaws (for example is too descriptive, is not technically feasible or lacks a strong neuroscience focus) and the committee recommends extensive revision. View this as an opportunity and not as a hindrance. Remember, the goal is ultimately to have a successful dissertation project. Please work closely with your mentor and committee in the revision process. We recommend at least two months be given to make the changes and that your preference be considered, although the exact timeline is at the discretion of the committee. It is best to not rush things or to take too long. You will want enough time to think deeply about your project and formulate new ideas without delaying your overall progress. A second committee meeting (and if needed others) is strongly recommended so that you and your committee have ample opportunity to evaluate the revised proposal. Please set a date for the second committee meeting during the first meeting.

Execution of the proposed research: Research is an evolutionary process and so the thesis proposal is intended to serve as an initial roadmap. Changes in the proposed

studies can be evaluated and approved by the Dissertation Committee in regular semi-annual meetings.

Proposal format:

The proposal should reflect *your* thinking and writing. If you have previously written a grant to an external funding agency, you can use whatever portion of that grant that you, and not your advisor, produced. Determining what is and is not your own work can be difficult in some cases. We defer to your sense of professional ethics on this point. If there is any doubt, it is best to consult with your mentor, your committee or with the NGP director for guidance.

The proposal should consist a single Specific Aims page followed by a Research Strategy section. Typically, the entire proposal is in the range of 6-12 pages (not including refs).

The Research Strategy should start with a brief (half to one page) Significance section describing the significance of the proposal.

Significance section should be followed by the Approach section describing how the research will be carried out. The Approach section should include concise background information, your preliminary data, and your experimental methods. Generally, each aim is handled separately. Please consult with your mentor for advice on structuring your proposal. Please do not include an Innovation section. A common structure is as follows:

SPECIFIC AIMS:

RESEARCH STRATEGY:

A. Significance:

The NIH describes significance as follows:

...the importance of the problem/barrier to progress that the proposed project addresses; how the project will improve scientific knowledge/technical capability/clinic practice in the field; how the concepts, methods, technologies, treatments, services, preventative interventions that drive the field will be changed if the aims are achieved.

B. Approach:

Specific Aim 1:

Introduction: provide a brief overview of the goal, hypotheses, overall approach and rationale.

Background and preliminary data: Please provide a brief background section describing the relevant literature. Use it to build an argument for your project and give the reader what they need to know, but not more. It is not a comprehensive literature review. and preliminary data sections that is linked directly to your specific project. The next section should be a description of the experiments and methods. Typically, each aim is handled separately. Start with an overview of the experimental design for that aim, and then

proceed with a description of individual experiments. Be sure to include enough methodological detail for your committee to be able to provide useful feedback. The focus and fine-tuning that your committee can give could save you a great deal of time and effort in the long-term, but that can only happen if you give them something they can work with. Be especially clear about identifying experimental controls, analysis methods, statistical methods, expected results and anticipated problems.

Your preliminary data is an important component of the proposal and can be included in the Background or Experimental Approach sections as you see fit.

A discussion of limitations and alternative approaches is an especially important component of your proposal and should not just be a few throw-away sentences. In fact, it is an ideal place to demonstrate the depth of your thinking on the project, something committees are especially interested in. Finally, include a brief but realistic few sentences on your projected timeline. Avoid the common pitfall of providing an unrealistic timeline. Try to frame it in terms of what a single person might be able to do over the next several years, and not what a team of 20 might be able to do.