

The Prelim aka The Qualifying exam

(Also, in addition to DGS I sit on an NIH panel that reviews training fellowships, including pre-doctoral fellowships)

Piled Higher and Deeper by Jorge Cham

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title: "Quals" - originally published 1/11/1998

COMPONENTS

- NIH F31 grant proposal
- 3 page research summary
- Brief presentation of research progress and presentation of grant proposal with Q/A
- Other usual committee meeting business

WHY?

- To confirm you have sufficient background knowledge
- To see your ability to about new scientific questions, experimental plans of attack, and what could go wrong/what you could do about it
- To see your ability to think “on your feet”
- You provide an update on what your work so far has been and where it is going
- Get experience in writing a grant proposal and everything that involves
- Check in on other non-research important grad school activities
- With committee approval- allow you to get MS on way to PhD

To confirm you have sufficient background knowledge and the ability to think “on your feet”

- You have been accumulating background knowledge all along
- Seminars, classes, group meetings, poster presentations, and even discussions with peers/non-scientists have prepared you for this
- You should be keeping up with literature anyway
- WHY HOW WHAT
- Don't b.s. if you don't know
- Don't be surprised if you get a couple of "tangential" questions
- You will get interrupted with questions!!!!

For your thesis provide an update on what your work so far has been and where it is going

- Sometimes challenging to “blend” this with grant presentation

- Some of the preliminary data for grant proposal may be your own thesis work so far

Get experience in writing a grant proposal and everything that involves

- Grant proposal may be your thesis or closely related topic
- Discuss this with your advisor
- You can get feedback while writing from your advisor(s) (but they need to respect this being your scientific thought process)

- **Title**
- **Project Summary/Abstract** (30 lines of text)
- **Project Narrative** (3 sentences in “lay person’s” terms)
- **Specific Aims** (1 page)
- **Research Strategy** (6 pages) (single-spaced, half-inch margins)
- Eleven (11) point font should be used throughout the proposal.

Specific Aims (1 page)

- Succinctly outline the scientific problem and why it is important. (Usually 2-3 paragraphs)
 - WHY and WHAT
 - Sufficient background, including anything you or your group have found that is relevant
 - Gaps in knowledge
 - Hypothesis

- Succinctly describe what research you propose (Usually 2 or 3 aims)
 - State each aim and have 2-3 sentences about HOW
 - Specific is a key word here!
 - Some people have hypotheses as part of aims
 - Can start with words like Determine, Identify, Develop. Etc. (e.g. Determine if the CSF1R inhibitor XXX has direct impacts on tumor cells) or can use questions (e.g. Does the CSF1R inhibitor XXX have direct impacts on tumor cells?)

Research Strategy (6 pages) (single-spaced, half-inch margins)

- **Research Strategy:**

- Background needed to understand proposal- can include preliminary data (or have it in a separate section or even in the approach)
 - Make sure that the significance and innovation are clear (gaps in knowledge, new methods, etc.)
 - Approach- Organized by specific aim and utilize subaims to facilitate flow and understanding.
 - Provide sufficient detail of experiments to prove you have thought about them, that they are appropriate, and will provide rigorous data that relates to the hypothesis
 - Discuss the expected results, potential problems and corrective measures/alternatives
 - Provide a tentative sequence or timetable for the investigation.
 - Useful to close with summary that briefly re-iterates big picture and possibly even future directions
- Point out any procedures, situations, or materials that may be hazardous to personnel and precautions to be exercised???

- **Project Narrative** (3 sentences in “lay person’s” terms)

Alexander disease is a rare neurodegenerative disease with no effective treatments. Although it is known that an immune response occurs in the brain of Alexander disease patients and model mice, the role of the immune response in the disease is not known. This proposal will examine if a certain type of immune cell promotes disease phenotypes and therefore could be a target for disease therapy.

- **Project Summary/Abstract** (30 lines of text)

> Provide more detail than narrative (and can read more “scientific” than narrative)

“TRIP UPS” Part 1

- Not explaining the “why” or “big picture”
- Not having a clear hypothesis
- Assuming everyone that will read it is an expert about what you are working on
- Proposing too much
- Proposing only shallow or “observational studies”

“TRIP UPS” Part 2

- Making sure enough experimental detail is present (Tricky- have limited space)
- Not using Subaims (which can help with “flow”)
- Not thinking about things like replicates, statistics, etc.
- Mismatch between stated aims and what is actually going to be learned from proposed experiment
- Expected outcomes, potential problems and corrective measures (Tricky)
- “Grantsmanship errors”- typos, grammar, blurry/small figures, incredibly dense proposal, etc.
- 100 miles an hour during presentation

- **Allow you to get MS on way to PhD**

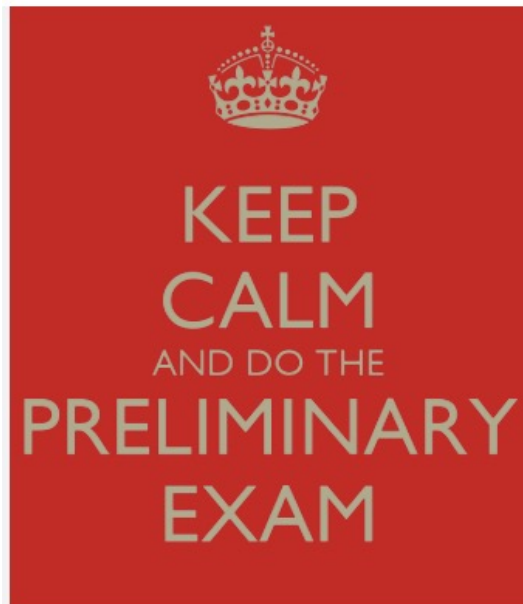
> With committee's permission can use passed prelim instead of MS thesis defense

- **Check in on other non-research important grad school activities**

- Anything you need to talk to your committee about relating to career development, meetings, etc.
- Have time with your committee without advisor present

- **Outcomes of the prelim**

- Pass
- Written revisions and/or re-defense required
- Fail



- **DISSERTATOR STATUS**

- Must enroll 3 credits per semester
- Usually 3 credits 990 summer, 2 990 and 1 of 931/932 during the fall spring
- Fall/spring continuous enrollment
- Need 51 total credits to graduate