Grant writing for grad students

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So much depends...

- All scientific writing requires a different style/voice
  - Paper for class
  - Thesis/dissertation
  - Empirical paper for journal
  - Review paper
  - Book chapter

- Grant writing is least like the others, but might be the easiest to learn
Grant writing basics

- Grants are written to a specific audience and need to be tailored to the reviewers and/or funding agency.

- Most often, you’ll write to a “smart person that isn’t in your exact field”.

- Need to find the right balance between big picture and highly-specific details.
Grant applications

- Every funding agency will have their own set of procedures

- Work closely with grant administration early in the process to avoid problems later
  - Page limits, font size, number of lines per page, color figures permitted or not, budget, formatting of pages, information needed from collaborators, etc, etc.

- First round of review is administrative
Types of applications

- Research grants—fund the study
  - Range in size from donated product to tens of millions of dollars per year

- Training grants/fellowships—fund the person and the study
Grant reviews based on...

- Significance—societal value
- Investigators—expertise and study performance
- Innovation—advance the field
- Research Strategy—methods
- Environment—feasibility
- Agency specific factors—e.g. budget, focus of study, etc., etc.
Where to find funding

- Talk to your advisor
- Federal funding—NIH, NSF, NASA, DoD, etc.
- Foundation funding—every problem has at least one foundation linked to it
- Society funding—all conferences are connected to a society/association
- Corporate funding—most accept applications
- Internal funding—Graduate student senate, university research council, departments
Funding rates

• Enormous differences in funding rates across agencies

• Foundations often fund a higher percentage, but have more idiosyncratic reviewers

• Internal funding is the easiest to get, but at the lowest amounts
Common mistakes

- Writing a grant that you are interested in, rather than the funding agency
- Project is too ambitious—better (though harder) to fund a series of small, programmatic studies instead
- Descriptive study rather than mechanism or treatment
- Budget too high or too low
- Incomplete research team—need both CV and performance people
Common mistakes (cont.)

- Not using templates to get started
- Failing to integrate (rather than Frankenstein together) suggestions from collaborators
- Project isn’t focused—entire application should be a single idea/hypothesis
- Lack of past work or preliminary data to support the application
A good grant will have...

- Right idea
- Right time
- Right design
- Right measures
- Right population
- Right principal investigator
- Right research team
- Right institution(s)
- Right facilities
- Right budget
- Right size
- Right length of study
- Right funding source
- Right funding mechanism