Writing More Competitive Grant Proposals

Thomas Wenzel
Bates College
Is this a great country, or what?

- You can send a document to someone asking for thousands of dollars and they just may give it to you!
Of course ...

- They often don’t give you the grant
- My first rejection was from PRF. Essentially the same proposal to Research Corporation was funded (RC program officers more astute in their judgment!!!)
- Four NSF rejections (research grant) before I finally got one funded
Definition of Undergraduate Research

Undergraduate research is an inquiry or investigation conducted by an undergraduate that makes an original intellectual or creative contribution to the discipline.

- Original work
- Peer-reviewed publications
- Undergraduate Research Summit

http://www.bates.edu/x50817.xml
Follow the Guidelines

- Catastrophic consequences
  - CCLI Phase 2 – Multi-institutional

- Creates doubt about attention to detail

- Is your work appropriate to the agency?
Review Criteria

- Significance – quality of research
- Approach – experimental method
- Innovation – novelty of work
- Investigator – expertise/record in field
- Environment – infrastructure to support work
Significance of Work

- You need an excellent idea
  - Significant (not low-impact)
  - Exciting
  - Ambitious (but not too ambitious if at an undergraduate institution)
  - Not just a continuation of or derivative of prior work (not incremental)
- Should lead to a long-term research agenda
Generating Ideas

- Read the literature
- Seminars – structure your department seminar program to assist the faculty
- Conferences (especially smaller ones – Gordon Conferences)
- Collaborate
- Informally test your ideas on colleagues
Reviewers Need Convincing

- A proposal is not a manuscript.
- You are trying to sell someone your ideas and your plan for implementing your ideas.
- Explain the significance of your work to the discipline and possibly to society – why your work is important and needs to be done.
Experimental Plan

- Well designed – likely to succeed
- Experiments well thought out – will accomplish what you want to investigate
  - Not wishful thinking
  - Not a laundry list
- Focused and integrated
- Just enough details
- Provide plan B if plan A is risky
**Other Considerations**

- Be succinct in your descriptions

- Insure that the literature references are thorough, but:
  - don’t inundate the proposal with references in an attempt to impress through sheer numbers
  - don’t reference all your own work – only those publications that apply
Note (for those at undergraduate institutions) that all of my comments so far relate to the SCIENCE
Investigator/Environment

- Convince the reviewers that the infrastructure and expertise is in place to complete the work
  - Dedicated lab space
  - Equipment
  - Other resources that support your work
- If equipment/expertise not in place – establish a collaboration and document it with an attached letter
Involvement of Undergraduates

- Address the impact that the work will have on undergraduates
- Convince the reviewers that undergraduates can undertake your line of work (or establish collaborations for especially ambitious/specialized parts of the project)
- But remember – it’s the SCIENCE
Other Advice

- Find colleagues who will provide substantive and critical comments on a draft of your proposal
- Listen to those colleagues
- If the proposal is rejected, resubmit a revised version that addresses the criticisms raised by the reviewers
  - Unless the criticism is that the general idea does not merit funding
- Talk to the program officer
One thing I know for sure

You won’t get a grant unless you submit a proposal