

WRITING THE PROPOSAL--STEPS TO SUCCESS¹

Preparing to Write--Do your homework

- Outline for your collaborators and yourself what you want to do
- Consult the literature and descriptions of funded projects. Know what is being done in your field in ways similar to your proposed project
- Consult the agency's program solicitations. Read through them to find the most appropriate program.
- If you still need clarification, email or call the appropriate Program Officer. Email is usually the best way to reach them.
- Give yourself time to complete the process a few days before the announced deadline. Fastlane still accepts proposals but some proposals must be submitted by grants.gov (<http://www.nsf.gov/bfa/dias/policy/hsfaqs.jsp>) and, at present, that is a time consuming process. It is your responsibility to be sure the proposal is submitted and received on time. **So give yourself and your grants office plenty of lead time.**
- Think about evaluation and education research potential early in the process. Bring an evaluator in early in the planning. It helps focus the project and the proposal.
- Try to resolve problems re human subjects (<http://www.nsf.gov/bfa/dias/policy/hsfaqs.jsp>), hazardous chemicals, and use of vertebrates' approvals when you first submit your proposals. Try to get institutional decisions re their necessity. **Be sure the cover page indicates if this decision has been made or is pending.**

Writing

- Organize the proposal using proposal guidelines
- Make it easy for reviewers to find key items in your proposal. Use aids such as bullets and an outline format.
- Reference to the literature or data from prior work: Cite the relevant literature so that reviewers can see how what you are doing relates to and builds upon prior work done by others or yourself. If you have done a pilot project include data from that project.
- Description of Project: Be sure you clearly describe what you want to do and **how you will do it** as well as the **problem you want to solve** (goals and objectives) and the fact you will solve it. If possible give a short explicit example that illustrates what you mean to do within the overall changes proposed.

¹ This handout is from the "**External Funding for Faculty Research: Working with NIH and NSF**" workshop held February 18, 2011 at the College of the Holy Cross and sponsored by the Colleges of Worcester Consortium. Thank you to Dr. Mary Lee S. Ledbetter, NSF Program Director – EHR/DUE, for her permission to post this material on Clark's website.

- Evaluation and Assessment: Be sure you describe how you will follow the progress of your project, determine whether it is successful and then disseminate outcomes. Consult a skilled evaluator.
- Consider the research potential of the project. Could results from your project add to the knowledge we now have about what works and why in STEM education? If at all possible relate your efforts to current research about what works and why.
- The budget explanation clearly links (by line number if possible) items on the budget page with the explanations given.
- Include the following required sections: References Cited; Current and Pending Support; Facilities, Equipment and Other Resources

Final Steps- Little Things Count

- Check your proposal using the proposal guidelines to make sure the proposal is complete
- Observe page limitations—panelists may elect to not read the appendices
- Spell check
- Avoid abbreviations; be sure to write the complete name for an acronym the first time you use it.
- Have someone read your draft critically.
- Check your FastLane submission to be sure the Grants Office has submitted it properly.
- Follow the fate of your proposal on FastLane. NSF emails decisions to you. Once your proposal has been declined or awarded, reviews and panel summaries plus Program Officer suggestions are available on FastLane.

SUGGESTED ACTIONS AFTER YOU RECEIVE WORD OF A DECISION

Potential Awardees

- If a Program Officer calls to negotiate a potential award, negotiate in good faith. Return the requested rewritten budgets and explanations as soon as possible. **Get that IRB (Internal Review Board) approval if asked!!!**

Awardees

- When reporting results, acknowledge the funder; include agency, directorate and division.
- As appropriate, keep NSF informed through annual reports and other NSF or any WWW based data collection system that might have been developed for your program.
- Disseminate results
- Help hopeful potential applicants if they call for help.

- Cooperate with educational researchers who might find your project a useful base for their own research.

Declines

- Read the reviews carefully.
- Consult the Program Officer if the reviews and comments seem unclear.
- If encouraged, submit again paying attention to suggestions from the panelists and NSF Staff.
- If you rewrite and resubmit a proposal do not specifically refer to any past declined proposals, as the next set of panelists rarely include any of the same reviewers as those who reviewed your last proposal.

OTHER TIPS

CURRENT NSF CONCERNS

(These concerns indicate features that increase interest in strong proposals)

- Attention to newly emerging fields, such as climate change, proteomics, nanoscience, cyber infrastructure, and to groups currently in high demand in science, mathematics, engineering and/or technology fields such as pre-service teachers, computer science technicians and/or those with the ability to apply interdisciplinary approaches to complex problems.
- Attention to opportunities to attract or retain students from groups currently underrepresented in science, mathematics, engineering or technology fields and to faculty and institutions serving these students.
- Attention to institutions that appear to be underrepresented in the current NSF portfolio such as community colleges, historically black colleges and universities, Hispanic serving institutions and tribal colleges.

SOME COMMON REASONS FOR PROPOSAL DECLINE

- Lack of evidence that the PI is aware of the relevant literature and is building upon it.
- Diffuse, superficial and unfocused plan.
- Lack of sufficient detail.
- Apparent lack of the requisite expertise or experience by the proposers.
- Lack of a clear plan to document and evaluate activities and outcomes and to disseminate the results.
- Evaluation plans that are mainly surveys to determine user satisfaction with no clear mechanism for documenting changes in: student learning, faculty approaches to presenting material, and/or university and departmental or disciplinary approaches to graduate or undergraduate education.

- Note that proposals whose summaries do not explicitly address both Intellectual Merit and Broader Impacts will be returned without review. Useful insight into what constitutes broader impact (from a chemistry viewpoint)

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13626&org=CHE&from=home

PROPOSAL PROCESSING

(What happens to your proposal once received)

Panel Reviews

- Program proposals are assigned prior to panelists' arrival and they write their reviews before arriving on site.
- All proposals are discussed by a panel of 4-6 reviewers. Panelists are your peers, knowledgeable about the discipline or sub-discipline (e.g. in biology separate panels consider proposals focused on biochemistry/molecular biology; physiology/anatomy/cell biology; general/ecology/) involved and drawn from a diverse set of institutions (K-12, industry, government labs, community college, liberal arts institutions, comprehensive and research 1 universities). The reviewers have a variety of reviewing and grants administration background (PIs, prior reviewers, first time reviewers). All reviewers have demonstrated interest and expertise in education within the sub-discipline.
- Each panelist rates the proposal. A scribe writes a summary of the panel's discussion.

NSF Staff Review-The Program Director:

- Reads the reviews and the proposals.
- Decides on potential funding for proposals based on proposal pressure, funds available and the merits of the individual proposal.
- Emails or calls the potential awardees to negotiate needed changes based on program guidelines, reviewers' comments, common practice within the sub-discipline, and characteristics that become obvious on a careful rereading by Program Directors.
- Releases, on FastLane, anonymous copies of reviews and summary available.
- May enter suggestions for declines into FastLane (Program Officer Comments).

Avoidable Obstacles to Speedy Handling of a Potential Award

- Slow response to requests for additional information
- Slow response to the need for a revised budget, lack of attention to budget guidelines
- Outstanding Annual or Final Report due from you, your co-PIs, or from a PI on a project for which you are a co-PI
- Lack of resolution concerning IRB