Notes from an "NSF DAY" - Submitting a Proposal to the NSF

Step 2. Preliminary Proposal Development Work

Welcome back to Notes from an NSF Day! This article will talk about what steps come after you identify a funding opportunity and suggest some resources available to you as you begin the proposal development process.

Finding Collaborators

The NSF does not require that proposals be submitted by a team of investigators, but they do want to see that whoever is working on the proposal is the right person for the endeavor. So, assembling a team of investigators who each bring targeted expertise to the research question you are proposing to pursue is an effective way to strengthen your proposal. Your first source of potential collaborators is, of course, your fellow department faculty. Find collaborators by talking to your peers about their research interests and then determining if there is a synergistic match between their research and yours.

You can also expand your potential team by looking at the research interests of people outside your department. You can locate these people through personal referrals, by using the GrantForward profile-matching function (www.grantforward.com/profile/browse), or participating in a Speed Networking event http://www.siue.edu/funding/outreach-and-professional-development/speednetworking.shtml.

You are also encouraged to contact the Office of Research & Projects and talk with Diane Cox, Director of Grants Development, about your interest in assembling a research team (diacox@siue.edu, x5886). Dr. Cox can assist you in reaching out to other departments and help you pull together a multidisciplinary team that you can lead in conducting the research.

Documenting the Need for Your Research

The NSF program directors at "NSF Day" emphasized that they are looking for research that is forward thinking. To get an idea about what the big picture for scientific research is for the NSF, take a look at their "10 Big Ideas" that encompass long-term research and process ideas for future investment at the frontiers of science and engineering at https://www.nsf.gov/news/special_reports/big_ideas/.

The program directors recommend that you do an extensive literature review to document past and current research. They want you to identify a gap or deficit that exists in current scientific knowledge – and then expect you to write your proposal to show how you will move the research forward. This literature search should become part of your References Cited list that will be included in your proposal.

What the Program Officers Look For

Before you start writing – **read the solicitation!** As you read, create a checklist of the required sections – look for wording such as "every proposal must contain…", "the NSF especially welcomes proposals that will…", "key features include…", or "of particular interest for this research priority theme is…" These phrases flag proposal attributes that the NSF reviewers would like to see – and you should plan on addressing them in your proposal.

Every NSF proposal submission must include a **Proposal Summary** that is divided into sections titled Overview, Intellectual Merit, and Broader Impacts. The program officers view this **one page** summary as your chance to **sell your idea to them** – it is your sales pitch for why your research deserves to be funded by taxpayer dollars.

The **Overview** should be written in layman's terms as much as possible and communicate the vision for your research. The **Intellectual Merit** section is where you document the trail of papers and conferences that support your thesis. And the **Broader Impacts** section should be the crux of your argument for why the NSF should trust you with taxpayer dollars – here is where you tell them **why your research will benefit science and society**. And yes, this has to all be done on **one page!**

The proposal summary can be written as you outline your research plan and begin writing your narrative. The next article in this series will talk about the next step: Writing your Narrative.

Next time in Notes from NSF Day – Writing Your Narrative