

## ADVICE

# Writing a Preproposal: Leave Them Wanting More

More and more grant agencies, faced with too many applications, are asking researchers to submit a preliminary version for review



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By Karen M. Markin | JANUARY 21, 2015

Whether they call it a preproposal, a concept paper, a white paper, or an extended abstract, many federal agencies are now asking applicants to begin the grant quest by submitting a short description of their projects.

Much like first-round job interview, the purpose of the preproposal is to help agencies narrow the pool and invite the most promising applicants to submit a full grant proposal.

Academics, having slogged their way through ponderous dissertations, are not accustomed to writing concise, persuasive descriptions of their work. But being able to do so is becoming important to a successful academic career. As a university grant officer, I'd like to offer some tips on how to write a preproposal that will earn you an invitation to the real competition.

Among the federal agencies that have requested preliminary proposals are the Department of Energy, the Education Department, the National Aeronautics and Space Administration, the Defense Advanced Research Projects Agency, and certain divisions at the National Science Foundation. The idea here is to reduce the workload of everyone involved in the grant-making process.

Federal research dollars have remained steady in the last few years, but



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scientists submit increasing numbers of proposals, resulting in declining award rates. Agencies are pursuing a variety of strategies to minimize the effort expended on this excess of proposals. This past fall, for example, I wrote about how some agencies are limiting the number of applications that a single institution can submit. And another way is to request a short initial application to determine whether the idea warrants the labor involved in preparing and reviewing a lengthy full proposal.

Preproposal competitions tend to have a low success rate. Don't let that intimidate you. Part of the reason is that, because the application is short, lots of people apply and some of their applications are not carefully prepared. By putting some thought into yours, you already have an advantage.

A preliminary proposal is *not* just a condensed version of a full proposal. Remember, the purpose of the preproposal is to excite at least one member of the review panel enough to advocate for a full proposal from you. A faculty member I know offered a good analogy: Think of the preproposal as a movie trailer for your full proposal. You need to sell reviewers on the idea, establish its scientific soundness, and document your ability to carry out the proposed work.

The requirements for these initial proposals come in a variety of forms, from one-page executive summaries to eight-page extended abstracts (eight pages is still a lot shorter than a full proposal). How you prepare the preproposal depends on the federal agency and its purpose. Follow the agency's instructions to the letter. If it provides an outline for preliminary proposals, use it. And don't prepare the preproposal hastily, even though it's short. Reviewers will be able to tell that you threw it together without much thought.

At the NSF, two divisions within the Directorate for Biological Sciences require a four-page preproposal. It must include objectives, significance, the research question, the research approach, and the broader impacts of the project. Use your publications list to illustrate your ability to use the methodology you propose. In my conversations with successful applicants, many have said it helps to have preliminary data in the preproposal.

The approach you take is slightly different when submitting a preproposal to one of the so-called mission-driven agencies, such as Darpa, NASA, and DOE, which exist to focus on narrow issues (rather than basic science like the NSF). It is still important to be clear and concise in your preproposal, but it is also critical that you deal with the agency's needs explicitly.

Agencies typically issue lengthy "broad agency announcements" that provide an overview of the types of work they want to support. For each category of work discussed in that announcement, a program manager's name is listed. Contact that person upfront to make sure the agency is interested in what you want to do. As one investigator told me, that contact is crucial because those announcements change little from year to year. Making changes to a program announcement is a time-consuming bureaucratic approval process, but the agency's needs do continue to evolve. Its interest may be waxing in one subfield and waning in another. You won't know unless you speak with a program officer.

Program officers for the mission-driven agencies have more power over grant decisions than those at the agencies that emphasize peer review. The mission-oriented agencies support research that is much more applied, so ask specifically what they want and how they want it accomplished. Then prepare your preproposal accordingly.

It helps to know something about the review process at the agency you are applying to. At some, such as NSF, the review panels change frequently, and a resubmission may be read by a completely new group of reviewers. It can be difficult to determine what they will support.

At other agencies, such as NASA, panels don't change much from year to year. A successful applicant said NASA reviewers know what they want, and they have a sharp eye, so it is important to submit a quality proposal with a good idea and a novel approach. Focus on the potential impact of your work and how it will advance the agency's mission and reputation. Also show that you and your research team are qualified to perform the work. If you can use agency data for your study—for example, satellite data—do so.

Because preproposals are short, reviewers sometimes read dozens of them. They are going to get tired, and you don't want your submission to be the one that makes the reviewer stop reading and go for coffee. Share the

excitement you have over your work, and document your qualifications, or you won't get the opportunity to elaborate on it in a full proposal.

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