



## Description

Most academic researchers must find funding from outside their home institutions for at least a portion of their work. The organizations that fund research through grants typically have a stated purpose and are looking to fund projects that contribute to the achievement of that purpose. Thus, for research grant proposals to be effective, scientists must first choose to send their proposals to appropriate funding institutions, many of which publicize their calls for proposals online. Once a researcher has identified a promising funding source, it is highly valuable to place a phone call to the appropriate administrator of the funding institution to ensure that the proposed research is of interest to the funding organization.

## Criteria to Address

Scientists must present their work to showcase how it will provide important new information in the field. The US National Institutes of Health (NIH) is one major funding source for academic biomedical research. The NIH [lists five review criteria](#) that each application should address, and while the NIH tends to focus specifically on biomedical research, many other types of funding organizations assess submitted research grant proposals based on these same criteria:

- *Significance*: Able to advance the purpose of the funding organization
- *Approach*: Methods well designed to address the hypothesis; budget is appropriate
- *Innovation*: Proposes a unique and novel approach
- *Investigator*: Backgrounds of investigators add value
- *Environment*: Provides satisfactory support/facilities

## Structure of the Grant Proposal

While there is some variability in the [recommended structure for a research grant proposal](#), the following components are typically included:

- Title page or cover letter: Many funding organizations have a specific format for the title page or cover letter, but it might include:
  - Title of project
  - Names of investigators/home institution
  - Name/address of the funding organization; name of the relevant program officer

- Statement addressing the priorities of the funding agency and the relevance of the proposed project in tackling these objectives
- **Abstract and specific aims:** The abstract will likely be the first part of the proposal that reviewers read but may also be the last part reread, as it is easy to quickly revisit during study section discussions. The abstract should be succinct, yet should still state all primary components of the proposed research project, including 1) overall purpose of the project, 2) specific aims, 3) research design and methodology, and 4) significance. In some grant applications, “[specific aims](#)” is the name of an entire section that typically begins with an abstract-like section and then details a numbered list of specific aims.
- **Introduction:** The introduction elaborates on key components of the proposal that were mentioned in the abstract, including 1) the question being addressed, 2) why it is significant, and 3) how the proposed project will address this question.
- **Background and significance ([Literature Review](#)):** This section should show that the investigator understands the current state of knowledge pertinent to the research project and has designed the current study to address a critical missing component.
- **Preliminary results:** This section includes any relevant results already obtained.
- **Research design:** This section should state the question being addressed and the proposed hypotheses, even if previously stated in other sections. This section should also detail the methodology that will be used to test these hypotheses, including specifying anticipated outcomes and how the investigators plan to assess and broadcast the results. The investigator should use this section to anticipate and address any questions and concerns the reviewers may have about the project.
- **Budget:** The details required in this section will vary depending on the funding organization. In most cases, it should include all anticipated costs associated with the proposed project, even if the requested grant would not cover the entire amount, in which case other anticipated sources of funding can be included here.
- **Personnel and resources/environment:** This section should indicate the value each investigator brings to the project, which will serve both to justify the budgetary requirements for salaries and to indicate the strengths of the researchers proposing the research project. Further, this section may include information about the support and facilities available at the affiliated institution(s).
- **Timeline:** Provide a timeline for the project that includes the anticipated start and end dates for each section of the proposed project.

## Writing for Success

Many researchers might have [experience with academic writing](#) when they present results of studies for publication. However, the writing required for producing effective research grant proposals is different. In a grant proposal, the author is *selling an idea to the reader* while in a publication an author is *explaining the results to a reader*. Thus, in a grant proposal the language should be exciting and the sentences relatively short. In general, ease of understanding is critical. Remember, depending on the funding agency, the reader may not be an expert in the field. For this reason, [jargon and excessive use of acronyms](#) should be avoided as well. Further, [when writing a grant proposal](#), be sure to leave enough time to thoughtfully and thoroughly design the proposed project and to share the proposal with colleagues, giving them enough time to review the proposal and respond.

## Extra Tips

Networking with administrators at funding organizations can ensure that investigators become aware of new funding opportunities as they become available. Connecting with other investigators in your field, both locally and globally, can open opportunities for collaboration on other projects. Furthermore, study sections that review grant proposal are typically composed of investigators in the field. In addition to interacting with other scientists who ultimately end up sitting on study sections, researchers may find it beneficial to personally participate in these study sections. The feedback from grant reviewers is valuable and investigators should carefully consider the responses they receive regarding their application, whether they have received funding or they are planning to [revise their application](#) and resubmit it.

## References

1. Karen (2011, July 5) *Dr. Karen's Foolproof Grant Template*. Retrieved from <http://theprofessorisin.com/2011/07/05/dr-karens-foolproof-grant-template/>
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3. ESRC Shaping Society. *How to write a good research grant proposal*. Retrieved from <http://www.esrc.ac.uk/funding/guidance-for-applicants/how-to-write-a-good-research-grant-proposal/>
4. Jennifer Cleary. *Writing a Research Grant Proposal*. Retrieved from <https://www.uwinnipeg.ca/graduate-studies/docs/scholarships-and-awards/Writing%20a%20Research%20Grant%20Proposal.pdf>

## Category

1. Manuscripts & Grants
2. Reporting Research

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