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BSI Career Development Series: Scientific Communication

Grant-Writing Tips

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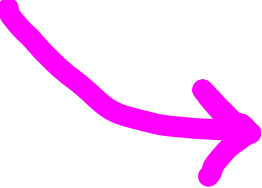
Writing a grant application: the big picture

- Every funding opportunity has a unique mandate and, therefore, a unique set of application requirements.
- Most funding agencies offer robust guidance about how to complete these application requirements.
- The written core of a grant application is its **project narrative** or **research proposal**.

Example of a grant application structure (Alfred P. Sloan Foundation)

The Research Software Alliance: Catalyzing community-led collaborations

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What is a research proposal *for*?

Purpose of a Research Narrative/Proposal

- To *persuade* an audience that the project is significant, original, and feasible.
 - Persuasion ≠ manipulation
 - Persuasion = providing excellent reasons for reviewers to say yes to your proposal.
- Other verbs to keep in mind: to *pitch*, to *convince*, to *build a case* or an argument.

How do you *persuade* in a
research proposal?

Writing has emergent properties

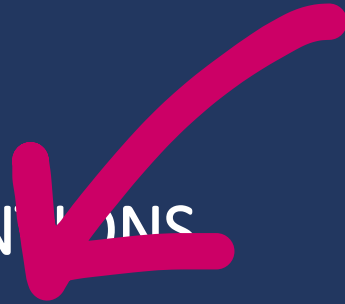
YOU

- Your knowledge
- Your priorities
- Your writing



CONVENTIONS

- Linguistic
- **Generic**
- Disciplinary



YOUR REVIEWERS

- Their knowledge
- Their priorities
- Their reading

Conventional proposal “moves”

- What do reviewers need to know about your topic in order to understand what is significant and innovative about your project?
- What specific problem in that topic area needs attention, and why?
- How will you address this problem? What are your objectives and/or hypotheses? What is novel about these objectives/hypotheses?
- What is your research plan? Why are you taking this approach?
- What do you expect to find or make?
- Why does your proposed research matter (*to the funding agency*)?

Detail: how much to include?

- What is the purpose of the information?
 - Does it help your reviewer *understand* your project?
 - Does it help your reviewer *evaluate* the significance, novelty, and/or feasibility of your research plan?
- Explaining *why* you plan to do something in a particular way is a key element of successful proposal-writing.

Making decisions about detail

Draft:

The liver is the largest solid organ in the human body and is known for its indispensable role in metabolism and extraordinary capacity in regeneration. Despite its importance, the fundamental processes of liver regeneration remain convoluted with no clear key players identified.

Revision:

The liver, a vital organ in the human body, is known for its extraordinary capacity for regeneration. Despite its importance, the process of liver regeneration remains convoluted with no consensus on main players.

Power positions in sentences: reader view

1. The start or topic position of a sentence tells me what to expect in the rest of the sentence.
 - Identifies conceptual focus of sentence
 - References **familiar or already-established information**
2. The end or stress position of a sentence is important because it will build on what I already know.
 - References **new information** about sentence topic

Power positions in action

The liver, a vital organ in the human body, is known for its extraordinary capacity for regeneration. Despite its importance, the process of liver regeneration remains convoluted with no consensus on main players. While there have been previous efforts to discern how dominant cell types (i.e., hepatocytes, liver sinusoidal endothelial cells) influence liver regeneration, little attention has been given to the role of the hepatic immune microenvironment (composed of rarer immune cells) in this system.

Power positions in action

The liver, a vital organ in the human body, is known for its extraordinary *capacity for regeneration*.

Despite its importance, **the process of liver regeneration** remains convoluted with no consensus on *main players*.

While there have been previous efforts to discern **how dominant cell types (i.e., hepatocytes, liver sinusoidal endothelial cells) influence liver regeneration**, little attention has been given to *the role of the hepatic immune microenvironment* (composed of rarer immune cells) in this system.

Characteristics of persuasive research proposals

How did the grant-writers decide on this structure & these headings?

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The Sloan Foundation's Grant Application Guidelines



Proposal Narrative

The grant proposal narrative must be divided into sections that address the following questions. Be mindful that proposal narratives are read by all senior staff inside the Foundation and should be written in a style accessible to an interested non-specialist.

1. **What is the main issue, problem, or subject and why is it important?** The proposal should start with a discussion of the main issues, problems, or subjects that the proposer expects to address and why these are important.
2. **What is the major related work in this area?** The proposal should contain a summary of similar institutions, events, products, projects or other work addressing the same or related subjects, issues, or problems. The narrative should go on to describe how the proposed project differs from, contributes to, complements, or competes with these alternative efforts.
3. **What is the project? What are its goals and approach?** In this section, the proposal should provide a description of the project, including a clear statement of the work to be undertaken, the goals of the project, and how those goals relate to other work in the same issue area as laid out in Section 2, above. Essentially, the narrative should describe what proposers want to do, why they want to do it, how they will know if they succeed, and what benefits will accrue from success, all written at a level that is

Characteristics of a Persuasive Proposal

- Proposal follows application instructions *to the letter*.
- Proposal *addresses all evaluation criteria*.
- Proposal *is a proposal*: it includes expected persuasive moves.
- Proposal *organizes information* in a logical and reader-friendly way.

Resources and examples

- Open Grants repository
 - <https://www.ogrants.org>
- NIH NIAID sample applications
 - <https://www.niaid.nih.gov/grants-contracts/sample-applications>
- Manchester Phrase Bank
 - <https://www.phrasebank.manchester.ac.uk>



Discussion