

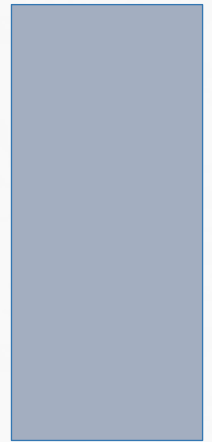
GRANT DEVELOPMENT: EXAMPLES AND TIPS

Daniel Harney, Ph.D.

Grants and Awards Editor

Office of the Vice Dean, Research and Innovation

Faculty of Medicine



WORKSHOP OVERVIEW

- **Agenda:**
- 1.) Benefits of Grant Development through OVDRI
- 2.) How reviewers read grant proposals
- 3.) Tips for balancing elements of a proposal
- 4.) Examples of successful grant language



BENEFITS OF AN EDITORIAL REVIEW

- Maximizing the rhetorical impact of the research
- Reorganizing for most effective structure
- Improving layout and adding headings to make it easier for reviewers to navigate a proposal
- Correcting grammar, usage, spelling, and punctuation
- Identifying repetitive, unclear, or illogical ideas
- Aligning draft proposal with formatting guidelines
- Ensuring all criteria have been met



Academic writing:

Researcher-centered:

Scholarly passion

Past oriented:

Work you have done

Expository:

Explaining to reader

Impersonal:

Objective, dispassionate

Individualistic:

Usually solo activity

Verbosity rewarded:

Few length constraints

Specialized terminology:

"Insider jargon"

World of ideas

Thesis, theme, theory

Grant writing:

Sponsor-centered:

Service attitude

Future oriented:

Work you wish to do

Persuasive:

"Sell" the reader

Personal:

Convey excitement

Team-oriented:

Feedback needed

Brevity rewarded:

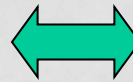
Strict length constraints

Accessible language:

Broad audience

World of action

Project, activities, outcomes



WRITE WITH THE REVIEWER IN MIND

- **Reviewers are:**
- Intelligent readers
- Experts, but perhaps not in your specific field
- Reading in non-ideal settings
- Reading with “tired eyes”
- Reading in multiple sittings
- Relying on clear summaries and abstracts to refresh their memories of your proposal.
- Quick to equate sloppy writing errors with sloppy research practices.



ANTICIPATING COMMON NEGATIVE REVIEWER FEEDBACK

- **Feasibility:** “Although the stated outcome is the identification of new therapeutic targets, the path to how this work in animal models will be expanded into that direction is not stated.”
- **Ambition:** “The proposed research does not move into new areas of exploration in the field.”
- **Translation:** “No clear description of KT or possible impact of research.”
- **Expertise:** “Unclear that the PI has the technical expertise necessary to carry out the research and use the infrastructure he requests.”
- **Coherence:** “Projects proposed seem unrelated to each other and do not offer a unified program of research.”



SUMMARIES ARE IMPORTANT

- Summaries aid in selecting appropriate peer-review committees.
- Summaries are used by committee members to determine their level of expertise for reviewing the application.
- Internal Summaries reiterate key claims at the end of sections.
- Reviewers use summaries to refresh their memories of the key scientific points of a proposal.
- *Summaries generate Interest and Excitement.*



LEVERAGING EMOTION AND DATA

“Fungi have a devastating impact on human health. They infect billions of people worldwide and kill over 1.5 million per year¹. The most vulnerable are immunocompromised individuals, including those undergoing chemotherapy or transplants, and those infected with HIV. The frequency of invasive fungal infections has increased by over 200% in recent years², with the surge in immune deficiencies. These infections impose a major public health burden with >\$10 billion in treatment costs and mortality rates of 30-90%, depending on the pathogen and patient population³.

Candida species account for 88% of all hospital-acquired fungal infections in the United States³. In Canada, they are the third most prevalent cause of bloodstream infections in hospitalized patients². [...] *Candida auris* is an emerging pathogen that has been classified as a serious global health threat by the Centers for Disease Control and Prevention; it is spreading rapidly and is resistant to all antifungal drugs⁴.”



SHOW, DON'T TELL

- **Rule:** Provide concrete examples of what you have done or plan to do.
- **Original:** "The proposed research program is expected to attract highly qualified personnel. The research is **ground-breaking**, addresses some of the most pressing questions in the field and uses **leading-edge** infrastructure in a variety of experimental methods. In addition, the research environment is very **supportive**. Dr. Smith will work with each trainee but also give them space to **think critically** for themselves."



SHOW, DON'T TELL

- **Revised:** " Given the worldwide interest in **genetics**, the proposed research program will attract highly qualified personnel eager to learn leading-edge technologies for **microbial genomics**. Dr. Smith's research program includes a comprehensive mentorship plan to enable trainees to enter **academia or industry**. HQP will have **weekly meetings** with Dr. Smith to troubleshoot and discuss milestones. They will learn techniques including **microscopy, high-throughput screening, and microsurgery**. All trainees will have opportunities to serve as mentors to a junior HQP, building **leadership and project management skills**."



CONCISION

- Rule: Look for superfluous language that can be removed without altering the meaning of the sentence.
- “In terms of measures, we found that there are currently robust measures that emphasize biomedical factors.”
- *“There are robust measures that emphasize biomedical factors.”*
- “The infrastructure is absolutely critical to enable Dr. Smith to be able to conduct his program.”
- *“The infrastructure is critical to Dr. Smith’s program.”*



CONCISION

- **Rule: Shorten long sentences by reversing the order of the subjects.**
- “The training that the HQP will receive using the requested infrastructure will provide them with a competitive skillset.”
- *“The requested infrastructure will provide HQP with a competitive skillset.”*



ACTOR/ACTION/RESULT

Original:

“Underscoring the importance of understanding the function of these molecules are several recent reports implicating dysregulation of FCRL family members in autoimmune disorders and infectious diseases.”



ACTOR/ACTION/RESULT

Revision

“Several recent reports implicating dysregulation of FCRL family members in autoimmune disorders and infectious diseases underscore the importance of understanding the function of these molecules .”



INFORMATION VS. COMPREHENSION

Rule: Present complex information in multiple formats and in multiple locations in the proposal to reduce information overload.

Original:

“ Our findings, in association with our collaborators (see list of co-PIs in Section 2) will lead to the development (in Years 1-2) of an app that when launched (initially for iPhones only) will provide Canadians at risk for diabetes with access to overviews of relevant recent health policies (imported from Health Canada and the Ontario Ministry of Health and Long-Term Care), healthy food choices (low sodium, low fat, vegetables and fruits) available in grocery stores (we have secured memorandums of understanding with stores in the GTA) and nutritional data from major chain restaurants, which can be tracked in the app.”



INFORMATION VS. COMPREHENSION

Revised as an Overview/Summary:

“Our findings will aid in the design of an app that will inform Canadians about new dietary policies, and help high-risk populations make healthier food choices in grocery stores and restaurants by providing them with nutritional data.”



INFORMATION VS. COMPREHENSION

Revised for Internal Summary:

“The proposed research project will lead to the development of an iPhone app that in year 3 of the project will go live and enable Canadians to:

- 1.) understand new federal and provincial health policies;
- 2.) identify healthier food choices (low sodium, low fat, vegetables and fruits);
- 3.) Access nutritional data from restaurants and grocery stores
- 4.) Record and track their own food intake.”



LEAD SENTENCES

- **Original:**

“Trainees will be located on the 5th floor of the Research Lab at UofT, where they will be provided with office space, computer and IT support. Trainees will present their research and collectively problem solve during monthly laboratory team meetings. They will have networking and presentation opportunities through meetings with the Scientific Steering Committee, as well as annual Research Days. Dr. Smith will ensure that students have opportunities to present at seminars with experts from leading programs in biomolecular research.”



LEAD SENTENCES

- Revised:

“Mentorship will include providing trainees with opportunities to present their research in a variety of settings. Trainees will present their research and collectively problem solve during monthly laboratory team meetings. Trainees will have networking and presentation opportunities through meetings with the Scientific Steering Committee, as well as annual Research Days. Dr. Smith will ensure that students have opportunities to present at seminars with experts from leading programs in biomolecular research.”



STRATEGIC OPTIMISM & SELF-PROMOTION

Original:

“Although Dr. Smith’s research is in basic science, it may lead eventually to the development of drugs that could someday be useful to some patients experiencing chronic pain.”



STRATEGIC OPTIMISM & SELF-PROMOTION

Revision: “ Dr. Smith’s proposal will open new research avenues and lead to critical collaborations between her and leading-edge researchers at UofT. As her impressive **\$8,100,000** in secured research funding attests, Dr. Smith’s research breaks barriers in the field of chronic pain and has already demonstrated impact internationally.”



2017 Workshop: Strategies for Innovation and Grant Writing

dan.harney@utoronto.ca

<http://www.medicine.utoronto.ca/research>

<http://www.medicine.utoronto.ca/research/grant-development>

**Office of the Vice Dean,
Research and Innovation**



UNIVERSITY OF TORONTO
FACULTY OF MEDICINE