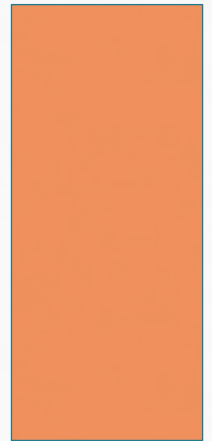


HANDS-ON GRANT WRITING SESSION

TIPS, HINTS, EXAMPLES

Faculty of Medicine
Vice Dean Research Office
Grant and Program Development

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



HANDS-ON GRANT WRITING SESSION

GRANT & PROGRAM DEVELOPMENT TEAM

Della Saunders, PhD

Grant and Program Development Manager

della.saunders@utoronto.ca

Sarah Carson, PhD

Grant and Program Development Officer

sarahd.carson@utoronto.ca

We Write. You Research.

GETTING FUNDED



A SUCCESSFUL GRANT PROPOSAL

GETTING FUNDED

A SUCCESSFUL GRANT PROPOSAL

- 3 ways to improve your chances of grant funding success:
 - 1) Scientific review by your academic peers
 - Your Director or Chair can arrange this
 - 2) Professional writing and editorial support
 - The grants we edit have higher success rates than Faculty grants not edited
 - 3) Apply. Apply. Apply.

A SUCCESSFUL GRANT PROPOSAL

- Key points:

- Focused
- Organized
- Persuasive
- Enthusiastic
- Readable
- Impactful
- Novel
- *Based on thorough and accurate research*



Key Points

WHY FUND YOUR RESEARCH?

- Reviewers are more apt to recommend funding YOUR research when:
 - It is novel and innovative
 - It is feasible
 - It has a solid research team
 - Consider collaborations: clinical, knowledge translation, tech transfer or industry
 - It has impact, value and significance

WHAT IS IMPACT?

- What is impact? **Solving a problem. A BIG problem.**
- The greater and more complex the problem → the greater the value and impact of research
- Solving a problem gives your research tangible impact
 - *"We've got a real problem, but I'm solving it"*
 - A solution, not necessarily a gap in knowledge

THE GRANT PROPOSAL



THE SECTIONS OF A GRANT PROPOSAL
from Title to Conclusion

TITLE

- Is the first introduction to your work
- Be specific
- Use the main concept
- Don't waste words like "The Study of...."
- Examples:
 - RCT (***study design***): Effect of guided breathing intervention on blood pressure (***variables***) in hypertensives (***study population***)
 - Prevention of orthostatic hypotension in spinal cord injury population (***main concept***): Pilot study (***study design***)
 - Neural Mechanisms of Orofacial Function (***main concept***)

INTRODUCTION

- Page 1 – hook your reader early and up front
- Briefly introduce your topic – no more than half a page
- The problem – the disease, syndrome, molecules, etc. that you study
- Your research – why is it novel and innovative?

INTRODUCTION

- Provide some detail about the problem and your research
 - Why is it relevant to medical science or to healthcare?
 - The So What?
 - The Why My Research Should Be Funded?
- In 1–3 lines, state your hypothesis and how your work will contribute to the field

IMPACT AND SIGNIFICANCE

- Enrich the problem
- Create a discontinuity from earlier work
- Build levels — increase/compound the problem
- Destabilize earlier findings
 - *We found this but we don't know that*
 - *Attempts have been made*
 - *Studies are divided*

IMPACT AND SIGNIFICANCE

- Take advantage of emotion
- Use words that signal a problem, such as:
 - Incomplete, unknown, unresolved, unstable
 - Contradictory, problem, disadvantage
 - Challenge, difficult, demands, tension
 - Conflict, costs, socio-economic issues
- Should you use questions to draw in the reader? Why not?
 - Of course!

HYPOTHESIS AND OBJECTIVES

- Not too long, one-half page maximum
- Develop a clear and simple **hypothesis**
- The **objective** of your proposal is to solve the problem or develop a path that will lead to the solution – your outcome
- Make your **hypothesis** and **objective** obvious in a stand-alone paragraph – **bold them**
- Why is your team in the best position to fulfill the objective?

BACKGROUND

- Use a couple of pages to provide background about the area you study
 - Write high level... but not too high level
- Describe your previous findings – details of progress that have led you to where you are now
- Summarize relevant literature as it applies to the grant
- Explain terms that may not be commonplace
- Why has your earlier work led you to your current question?

SPECIFIC AIMS

- Make your Aims easy to read – easy to find
- List your Aims
- In less than half a page, define with a couple of lines of detail:
 - Aim 1: To determine the effects of...
 - Aim 2: To define the role of...
 - Aim 3: To analyze and perform tests on...



RESEARCH DESIGN AND METHODS

- Follow the numbering of your Aims
- Aim-by-Aim, describe your methods:
 - Be succinct, not wordy
 - Intersperse short sentences with long ones
 - Use lists!
 - Identify various techniques with sub-headings
 - Take advantage of CAPS and **bolding**

RESEARCH DESIGN AND METHODS

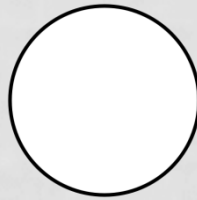
- ALWAYS include potential pitfalls and alternatives
 - If your work doesn't go according to plan, what then?
 - Your reviewers will always think of what can go wrong!
- Has anyone done this type of work previously?
- Are you breaking new ground?
- New methods?

TIMEFRAME, EXPECTED RESULTS, FUTURE DIRECTIONS

- Provide a projected timeframe for each Aim.
 - Will some Aims be pursued simultaneously?
 - Does Aim 1 have to be completed before Aim 2?
- What is your plan for evaluating results? What do you expect to find?
 - How will your progress and success be measured?
- What does the study add to existing research?
- What are the next steps for future research?

SUMMARY AND CONCLUSION

- Tie up the proposal by again stating the significance of your work
 - How this research will lead to next steps
- A summary can be very brief



READABILITY – HINTS FOR GOOD WRITING



READABILITY – HINTS FOR GOOD WRITING

- Write to and for your audience – busy distracted reviewer
- Start paragraphs with familiar, then move to new information:
 - *A dietary component that influences macular degeneration is vitamin B6.*
 - *Not Vitamin B6 is a dietary component that influences macular degeneration.*

READABILITY – HINTS FOR GOOD WRITING

- Every word should 'speak'. Avoid wordiness.
- Avoid unnecessary words
 - Indeed, really, actually, very, notably
- Avoid redundancies
 - New innovation, particular interest, already existing, completely eliminate
- Avoid using "that" unnecessarily
 - We found that a marker that we identified as a primary signature distinguished cells that would...



READABILITY – HINTS FOR GOOD WRITING

- Use of “it” or “this” can be confusing and ambiguous
 - Often best to repeat the word “it” represents
 - Not “A lab at Bloorview will be assisting the team. It has done these tests previously”.
 - But rather, “A lab at Bloorview will be assisting the team. The lab has done these tests previously”.
- Don’t overuse the same word in the same paragraph

READABILITY – HINTS FOR GOOD WRITING

- Use plain English, simple English
 - A large number of → Many
 - On the occasion of → When
 - In light of → Because
 - Have a tendency → Tend to
- Try to not use:
 - Complicated, long sentence constructions
 - A slew of acronyms



READABILITY – HINTS FOR GOOD WRITING

- Try to not interrupt the subject and the verb with a phrase:
 - Not
“Estrogen, through receptors, stimulates rapid cell signalling”.
 - But instead,
“Estrogen stimulates rapid cell signalling through receptors”.

READABILITY — HINTS FOR GOOD WRITING

- Create a “cheat sheet” for yourself to help with consistency:
 - Acronyms and when first used
 - Spelling of certain words, such as:
 - Healthcare or health care
 - Twelve or 12
 - Section styles
 - and subsequent levels
 - and indentations

1. Chapter 1
Blah blah
2. Chapter 2
3. Chapter 3
Blah blah
 1. Asdf
 2. Asdf
 3. Asdf
 4. Asdf
Blah blah
4. Chapter 4

READABILITY — HINTS FOR GOOD WRITING

- Use non-dehumanizing terms for patients.
 - “Person with diabetes”, rather than “diabetic”
- Intersperse the terms *Participant, Individual, People, or Patient*
 - Don't overuse the term "Subject"
- Define categories for race/ethnicity/gender
 - Why are the categories important?

thank
you!

**AND... ALL THE BEST
FOR FUNDING SUCCESS!**

della.saunders@utoronto.ca

sarahd.carson@utoronto.ca

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