Getting Funded 101 for Neuroscientists

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Why am I offering advice re grantsmanship?

• continuous funding from MRC/CIHR since 1976
• have held up to 3 CIHR grants simultaneously
• funded by other agencies
  • NIH
  • Rick Hansen Foundation
• member of MRC/CIHR/NIH grant panels for 20+ years
• last 3 CIHR grants rated #3, #1, and #1
What do these qualification really mean?

• I am old
• I have had great graduate students
• I have collaborated with very talented colleagues
• I am very lucky!

A disclaimer:
The value of the following advice is equal to the fee that Gunnar paid me
The three most important pieces of advice

1. Each grant application is a competition
2. Put yourself in the reviewer’s seat
3. Your goal is make each of reviewers the champions for your grant (both in writing and at the meeting).

*After reading your grant, the reviewers must be your advocates!*
What are the common scientific features of a funded grant application?

1. Innovative questions
2. Novel techniques
3. Well-designed experiments
4. The applicant has a great track record of delivering on previous promises

All of these features are your responsibility
I can not help!
Great science is essential, but it is not enough!

You also need an exceptionally well-crafted application
Goal #1

Make a great case for the project (the reaction of the reviewer: ‘why did I not think of this idea?’)

- It addresses an important question
- There is just enough information in the literature to give the proposal a sound base,
  
  BUT

there is not so much information that the question is almost solved – a delicate balancing act!
Goal #2

Precisely describe why your project is *important*

- Scholarship - insightful and critical review of the literature
- It addresses a fundamental problem – without the correct answer, the field will be unable to advance, or go in directions that are doomed to fail, or the absence of the answer has plagued the field for years
Goal #3

Be honest – the ‘founding principle’ strategy
Principles governing the input-to-output properties of motoneurons:
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This proposal is founded on the principle that the input-to-output characteristics of motoneurons depend on precisely arranged partnerships between specific combinations of excitatory synapses, inhibitory synapses, neuromodulatory synapses, and channels.

The outcome of the interaction between the members of each partnership (e.g. amplification) is determined by two factors: the **location** of the synapses and channels on the dendritic tree; and the **timing** of their activity.

Differences in the location and/or timing of the activity of the synapses or channels enable the motoneuron to tailor its input-to-output properties to meet the demands of specific motor tasks.
Consequences of the ‘founding principle’ strategy

• You MUST direct all projects to this principle

• You MUST address all of the key issues that are described in the principle – i.e. by means of specific projects/goals
Goal #4

Clearly and precisely describe the hypotheses and goals

• use simple language
• stay on topic
• fewer is better than many
• address ‘big’ issues that are ‘important’
Goal #5

The project

• to convince the reviewers that you are the BEST/ONLY person who can do these experiments

• to demonstrate that you are a master of all of the techniques needed to complete the project or you have arranged collaborations that will bring the required expertise to the project
Goal #5 (cont’d)

The project

• to provide a step-by-step plan that integrates each phase of the project into a seamless big project

• to show that regardless of the outcome of each experiment, valuable new insights will emerge
Goal #6

Significance
Goal #7

Budgets

• be realistic
• do not inflate or underestimate costs
• provide detailed explanations, especially if your request is unusual
Final comments (the reviewer)

The reviewer may or may not be an expert

• do not make assumptions
• use accessible language – if a reviewer does not understand even one sentence, he/she can not defend that part of the proposal
• if permitted use diagrams/illustrations to get the message across
The reviewer is over-worked and tired

• the application must be easy to read
  • use bullets to highlight key issues
  • less is more (if possible use wider margins and spaces between paragraphs)
Final final comments

• Seek feedback from colleagues and students

• Do not ignore the feedback! Revise, revise, revise

• Get some sleep
Good luck!