Thoughts on Marsden Grants

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- The process is that there is a panel who individually give rankings to each proposal.
- These rankings give a holistic score from several components.
- The most overwhelmingly important one is the first: what is the scientific merit of this proposal.
- Track record and contributions to NZ science are important, but the one above is the most important.

- Conclusion: You must write the proposal to maximize the score on the scientific merit part.
- Clearly track record and potential is implicitly taken into account in the score. (Years of experience is factored in also.)
- The panel will be a number of eminent scientists in your general but not your specific area.

- For example this year: Database theorist (Gill-chair), Applied Maths (Australian), Applied Stats, Applied maths/physics, Pure Maths (analysis), Software engineer (vaguely applied), Phylogenics/combinatorics, Pure Sats (Australia), High performance large scale computing (Australia).
- So, for example, I am applying in mainly pure maths and in theory of computation and algebra. There is no expertise at all on the panel. Most of them have seen a lot of proposals, though.
- So
  1. How should I write my proposal for 9 people who have no idea what my area is about and why it is of any interest to anyone?
  2. Also the panel is heavily skewed towards applied areas of study, with the only truly pure person working in continuous mathematics.
  3. It is not that I am saying that there is a bias towards their areas, only that due to the fragmentation of knowledge, it is very hard to appreciate what others do.

- Conclusion In round 1, you must write as clearly and simply as possible.
- You must say
  1. What you plan to do-stated for the audience above, NOT for people in your area.
  2. Why THE PANEL should believe this is important.
  3. Why THE PANEL should believe you can achieve this.
  4. Some part of the page saying HOW you plan to do this and what evidence supports this. This is where you can put in some details.
  5. (for me) What is the NEW idea here?
- It is NOT good enough to repeat "this is important". Evidence is needed.

My methods on panel

- Questions I ask: What are the new ideas here? What is the novelty? How can I believe that this person can carry it thru? (ie not just a long list of questions with no clear plan of how to attack).
- I will look at web pages, track records, length of time.
- Personally, I found it very hard with projects involving applications.
- For example, I will take problem X and apply MCMC (stats) when it looks more like something that should be funded by e.g. the medical council, or I will build a new programming language which will revolutionise Y, or I will model Z with a slighly different set of DE's than previously used. Tell me the new ideas, and why your approach will be potentially significant.

My writing experience

- Last time I wrote 12 drafts, and ran them past many people not in my area, and even not at VUW.
- Melnikov and I have begun thinking about our organization of our application to work on in the next 2 months.
- Our first draft is likely 2 times as long as necessary.‘
- This year we provided feedback to various people. Here is part of a bit of feedback:
  “How to make this apparent to non-experts. Emphasise big ideas in plain language. Emphasise how logic gives you tools not available to the others working in this area. Feed the panel with a spoon.”

My Suggestions

- First paragraph: Say in general terms what you plan to to, and why it is interesting. This I think should be accessible to any person in your general area.
- Middle bit: say more specifically what your project will do in more detail aiming at more of an expert. Say what are the new ideas you will bring to bear.
- Now give more details that more of an expert in your area would be convinced by that you have a good plan and the ability to carry this out. How are you going to do this. Again stress ideas.
- Now finish: Reprise the first paragraph. what are you doing, why, why is it important, what are your new ideas.

Pet Hates

The following are things I personally find will downgrade a proposal to me.

- Overly grandiose claims. “This will revolutionize computational gerionics,”
- Sounding too much like a used car salesman.
- Especially concentrating on outcomes (like listening to a politician... “we’ll deliver optimism.”)
- Saying what will happen from research. If it is known then why are we supporting it? Say what you expect will happen. The research office can have different ideas.
- Telling me over and over again that it is good for New Zealand.
- Proposals with just one (or fewer) little idea.
- Proposals that are just a simple list of problems, with no indication as to why we care or how they might be attacked.

Pet Likes

- Proposals that have really new ideas, and are not just direct extensions of previous work.
- Proposals that could have a big pay-off.
- Proposals that link areas together, with impact beyond their own speciality.

Common False Beliefs

- If you fail to get a grant for 2-3 years you will never get one. Panels change each year. Your history changes.
- It is always the same people. There is no guarantee of continuity.
- Being young counts against. Rather the opposite in my experience. A fast start is more valuable than a full proposal, really.

Common False Beliefs, ctd

- Applying and not getting a grant serves no purpose.
- First there are many other granting agencies (e.g. local strategic) which you might well be applying to, and you will need to think about that anyway. It cannot hurt to think about what you are doing.
- Second in my experience, getting to, say, the second round allows for a lot of local leverage for local (e.g. science faculty) grants.

- Third as your ideas evolve you can upgrade the proposal for the next year. Many poeple are more succesful in the second, or third tries because their ideas have had more time to simmer.
- Fourth at the very worst, the numbers are determined by how many reasonable preliminary applications are in the area.

Final Thoughts

- Get as many people as possible to read the proposal.
- Make sure that someone who is not a mathematician reads it. Especially someone who actually knows how to write good English .... I ask my wife.
- Take care who you put on as co-PI's. This can count against you. Both (or more) of you will be rated.
- After you write it, put it aside for a week, then read it again.
- Start NOW!