

Biology's Personal Best

Three deadly sins of grant writing

By Morgan Giddings 4 January 2011

You've just gotten the rejection back, and it stings.

Your reviewers wrote about all sorts of technical issues with your proposal. You scrambled to fix those issues – only to receive another rejection with a different set of "issues".

Are your reviewers insane?

No, but they're also not giving you the whole story of why they rejected your grant.

They're not intentionally hiding information. Rather, they had a gut reaction (like/dislike/hate) to your proposal, and all that stuff they wrote was just a rationalization of their reaction.

It wouldn't be so great for you or for the reviewer if they just wrote "I didn't like this proposal, my gut told me so!" They'd never be invited to review again. (Who knows, maybe that's a strategy to get out of reviewing, like trying to get out of jury duty?)

But anyway: that's the way we humans make decisions. It almost always starts from a subconscious ('gut') reaction, and then we must come up with reasonable sounding words to support that reaction. This justification is not just for other people; it's for ourselves. It makes our egos feel good, because then we're fully justified in any decision we made.

If you think you're immune to that kind of decision-making process, just examine the next few decisions you make. It can be illuminating (and you could also check out the book by Dan Ariely, Predictably Irrational).

This brings us back to your grant: the first impression that you make is vitally important if you want the gut reaction to go in your favor. There are lots of ways to help you, and equally there are some ways you can seriously hinder that

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Are your reviewers insane?

gut reaction.

Here is my current favorite top-3 list of deadly sins in grant writin, that you're unlikely to overcome no matter how good your project is:

- Write highly dense, technical prose that is designed only for a specialist in your field to read. Assume that your reader knows everything you know, including all the buzzwords and technical details. Make sure to overwhelm her with all those details in order to impress her. Don't bother to be educational or make the prose easy to read. We're all smart, academics with all the time in the world to wade through difficult text, right? Yes, definitely assume that your reader has unlimited time and energy to wade through your grant.
- 2. Don't bother to thoroughly develop your Specific Aims page before launching into writing the text of your proposal. Just start writing, and 'see what happens.' Zigzag around a bit, change what you're doing, and then keep going back and changing around your aims. Make sure you are doing this up to the last minute, and that you forget to make your aims line up with what you say in your proposal. Not only will you be having a lot of fun in your last-minute writing frenzy, but your reviewer will have the pleasure of consuming your spaghetti writing. He'll enjoy late nights reading your proposal trying to figure out what you're proposing to do, much like Sherlock Holmes. Yes indeed, you'll certainly win praise this way.
- 3. Make sure to dive right into the technical details of your elegant experiments, without giving any background about why the project is important in the first place. Wow your reviewer with your elegant experiments, designed to answer obviously important questions. Don't worry about the funding agency thinks it's important work, only worry about whether your experiments are elegant enough that only a buffoon could ignore that fact. And of course assume that elegant experiments equals grant funded, because elegance equals importance.

The bottom line is that you need to make it easy on your reviewer. Each of these sins can be readily avoided if you

simply put yourself in your reader's shoes, realizing that the reader has a tough job, and as a writer, it is your job to make it easier for them.

If you've recently had a grant rejected, I suggest you have a look at it from the context of these three deadly sins. Before trying to revise your project or approach, first consider whether you could simply fix things by eliminating these sins from your writing. It is amazing how far that can go.

If you want a series of free training videos on grant writing, including how to write the 'killer' specific aims, have a look over here: https://marketyourscience.com/thescientistvids

Morgan Giddings, PhD trains scientists and academics from all over the world how to get more grant funding and recognition with less stress and effort. She also does research in bioinformatics, proteomics, and genomics to address issues like cancer.

Tags: grant funding, grant writing, grant writing advice, grant writing tips, nih grant writing tips.

Filed under Funding.

6 COMMENTS



4 January 2011 at 18:10

This is logical and hammers home a point. It's also a nice way to self promote a persuasive argument that all one's own grants should be funded because, well, one's an expert one's advice and videos are proof of that. I mean, how can a self-styled expert on grant writing possibly have one's own grants rejected? It would be like voting out a president for doing a bad job after a 4 year term right? - oh - wait a minute.

David Kessel 4 January 2011 at 18:59

I leaned most of these rules by being a reviewer, and they have yet to fail me. When the pay-line gets below the 4th percentile, I may, however, be in trouble.



4 January 2011 at 19:09

This is excellent and astute advice if we do actually pay strict attention to it. It may not guarentee funding of course, but it would certainly help place the reviewers in the same corner as the applicant. Nice article.



4 January 2011 at 20:24

As a reviewer of numerous grants and awardee of quite few in the past, I disagree with this article. Maybe in the US it is different but try getting a grant these days in the UK if you are not at what is deemed to be an elite University. The chances are pretty abysmal no matter how well organised or clear your proposal is. You may even find yourself , months after your grant has been rejected (in spite of splendid reviews) being asked to review a grant that looks suspiciously similar to the one you had rejected. There is a great deal more to receiving a grant, and excellence in science and a well written grant are not always enough. Who you are and where you may be more relevant.

Anon

4 January 2011 at 20:35

Just want to add something to the three things listed. The central idea has to be clear and simple. Unfortunately for a lot of competitive renewals, the data is far from clear and simple. The better way to go probably is to write a new grant.

Nejat Duzgunes 4 January 2011 at 21:33

Dr. Giddings provides good advice to grantwriters who are battling the current system of providing research funding. I have written applications to develop a gene therapy for oral cancer that have received glowing reviews about how important this is and how our approach and preliminary data show that we can carry out this research. Although the priority score improved at each resubmission, the R21 grant was not funded. In the meantime an NIDCR program director reported to me that the Institute has no grants supporting a cure for oral cancer!

The problem is much deeper than impressing reviewers with a wisely crafted grant application (Duzgunes; The Scientist, 13(8):13; 12 April, 1999).

1. Members of NIH study sections are likely to be competitors in the same field as the grant applicant. They are unlikely to give the benefit of the doubt to an innovative research proposal that has not already been substantially pursued, particularly when they are struggling to procure research grants themselves.

2. When there are no experts on the review panel in the field of the proposal, reviewers are compelled to come up with some critique, regardless of scientific rigor or accuracy. Since such evaluations are not made by actual peers of the applicant, they are not proper "peer review." Despite the blatant scientific and factual errors they make, such reviewers are allowed to stay on review panels.

3. Review panels have the freedom to criticize an application in any way they wish, with no requirement to provide specific published references to substantiate their claims. The panels and their members, however, are not accountable for their critique. Revised applications addressing the criticism entail the loss of a complete funding cycle, and can then be criticized on entirely different aspects at the whim of the reviewers.

4. Grant reviews at NIH are partial to projects that are favorites of panel members and to areas of research that are "in vogue." Reviewers trained in a narrow area are often blind to alternative approaches and different fields of research, which may produce highly significant results.

5. Review panels use criteria including "probability of success" or "level of enthusiasm" when making funding decisions. The former criterion would tend to select projects proposing only incremental advances and reject exploratory research. The latter criterion is highly subjective and unscientific.

6. Review panels expect so much preliminary data to ensure the feasibility of the proposed project that the major part of a discovery needs already to have been made. This implies that NIH is not funding actual discoveries, but merely their further characterization ("mopping up operations").

7. Feasibility studies must often be conducted with the support of previous grants that were awarded for other purposes. This countermands the detailed description of experiments, since principal investigators are pressured to channel their efforts toward generating preliminary data in addition to, or instead of, performing the funded experiments.

8. Investigators spend a large portion of their time preparing grant applications. This is time not spent on research per se. In the case of currently funded scientists, much of this time is paid for by NIH grants in the form of salary support.

9. The period between application and earliest funding is an unacceptable 10 months, during which time many fields advance rapidly.

10. The review process consumes a significant portion of the reviewers' time, which is likely to lead to resentment and loss of objectivity, since this is time taken away from their own research activities. NIH officials publicly admit the lack of quality time devoted by the reviewers to this process.

11. The administration of study sections and travel expenses for study-section members cost NIH a nontrivial sum that could be used for actual research.

12. Science progresses via the vision and dedication of individual scientists, as well as chance observations. The tedious description of what a scientist is going to do three or five years from now, as required by NIH grant applications, is an unrealistic exercise in bureaucracy and is contrary to the true nature of scientific research.

13. Although NIH peer review is touted by some as the best possible system for allocating funding, this claim has never been proven by any scientific studies.

14. The current method of funding biomedical science has worked reasonably well in the past when the ratio of funds to the number of investigators was relatively high. Now, however, this method has become a "game scientists play," and has outlived its usefulness for a society awaiting cures for deadly diseases.

We urgently need to change our paradigms and to develop new ways of allocating funds for biomedical research, as I have outlined elsewhere (Duzgunes, The Scientist, 21(8):24; August, 2007).

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