

Learning From Reviewer Comments:

Tips for Preparing Research Grant Proposals

Proposals received by the North Carolina Biotechnology Center are subject to expert review. Frequent comments from reviewers are summarized below to provide insights to potential applicants in preparing grant proposals.

Fit for Center Grant Programs: A grant proposal *must* support the mission of the organization *and* be suited for the specific program to which you are applying. For example, a proposal to the Center must support the development of biotechnology and meet the guidelines of the specific funding program. The examples below are reviewer comments received when the fit is poor. Comments pertaining to a specific program have the program name(s) listed in parentheses.

Sample Comments:

- Lack of innovation (BRG, IDG, MRG)
- Lack of potential for commercialization (BRG, CFG, MRG)
- Insufficient relevance to the development of biotechnology applications (BRG)
- Lack of cohesive project with significant input from each of the three collaborators (MRG)
- Equipment is ill-suited for a multi-user environment (IDG)
- Insufficient justification in terms of number of users/hours needed/project demands (IDG)
- Inadequate knowledge of the requested equipment and what it can do/poor choice of equipment for proposed research (IDG)
- Long-term equipment maintenance plan is insufficient (IDG)

Tips: Review the mission of the Center and the guidelines of the specific grant program to which you are applying. Make sure your project is a good fit. Contact Center staff with questions regarding suitability.

Communication: Reviewers have limited time and energy to devote to your proposal. If you make them work too hard just to understand what you are trying to say, they will have little energy left to assess your ideas. Good ideas can be overlooked if the reviewer becomes distracted by typos, poor grammar, or other errors in construction. Clear, concise language is key to a good proposal.

Sample Comments:

- Proposal is poorly written (confusing, not logical, poorly organized, typos, etc.)
- Lack of detail
- Lack of a thorough thought process and clear story; lack of focus
- Improper or inadequate literature citations
- Improper use of certain terms
- Making assumptions/statements without having citations or preliminary data to back it up

Tips: Have colleagues from both within and outside your field read your proposal for clarity. Pay attention to their feedback. If your colleagues have trouble understanding something, reviewers may as well.

Idea or Conceptual Analysis: A strong research proposal takes an innovative idea and shapes it into a coherent plan that includes sufficient data and references. Reviewers often cite PIs for failure to provide detail on the thought process behind the experimental plan. The proposal should also include contingency plans to address potential obstacles. If you have not thought about the potential pitfalls, a reviewer will!

Sample Comments:

- Objective needs to be more focused
- Project is too ambitious (unrealistic goals)
- Not sure what new insights will be gained from the proposed research
- Lack of supporting preliminary data to demonstrate feasibility
- Proposal does not address obstacles encountered by others
- Plan is not logical
- Successive goals rely on unproven assumption
- Sticks to a narrow hypothesis without discussing or making allowances for alternative possibilities or approaches
- Too big a leap from preliminary data to the proposed hypothesis; failure to provide sound scientific data for the support of the hypothesis
- Idea is a solution in search of a problem

Tips: Do not assume that the reviewer will think as you do. Demonstrate that your goals are realistic with data from fundamental preliminary experiments. Conduct a thorough literature review to make sure you have addressed possible pitfalls. Include information on how your project fits into the broader picture outside the scope of the proposal.

Work Plan or Methodology: Reviewers look for a logical, well-designed work plan that includes sufficient detail to describe 1) how, when, and by whom the work will be done, 2) how the data will be analyzed, and 3) that the necessary skills and resources are available to complete the proposed research.

Sample Comments:

- Serious flaws in the experimental design; additional experiments are required
- Using sub-optimal techniques: i.e., using out-of-date techniques, or conversely, using unnecessary new techniques when standard techniques will work just as well
- Equipment is ill-suited for the proposed projects
- Essential piece of equipment or system not requested/available
- Timeline is overly optimistic
- Failure to provide a reasonable plan for exchange of information and coordination among investigators
- Lack of expertise in a specific area of the research (usually with respect to technology/protocol)

Tips: Think through your project step by step and be realistic about the timelines. Include the proper expertise on your team. Design experiments that include proper controls and analysis.

More Information on Preparing Successful Grant Proposals

The Biotechnology Center offers other grant writing resources on its website at www.ncbiotech.org/research-grants/successful-grant-guides.

For more information about the Center's grant programs, see www.ncbiotech.org/grants.

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