

# More Advice for Today's Application:

You should be able to explain how you answered 1-5 for IM and BI.

1. How would answering this research question change science (Intellectual Merit) or society (Broader Impacts)?
2. Why should I fund you specifically, and not just this research question? What innovation do you specifically bring to the table?
3. Is there a detailed plan? With built in measures of success?
4. What are your qualifications?
5. Can you actually carry out the needed research?

Current organization based off of NSF GPG.

Intellectual Merit - Introduction: Introduce the scientific problem and its impact on science (Review Criteria)

\*Broader Impacts A - Introduction: Impact on society through this work (Review Criteria 1-5)

Intellectual Merit - Research Plan

- Show the major steps that need to be accomplished
- What is the creative part of your approach?
- Have you thought of alternatives for hard or crucial steps?
- What skills do you have to make this plan successful?

\*Broader Impacts - Research Plan: Paragraph to specifically address how this research impacts (Review Criteria (1-5)

Conclusion: end with several sentences summarizing your project.

**\* Can be combined into one paragraph\***

## GRFP Broader Impacts Specific Guidelines

The following description of the Merit Review Criteria is provided in Chapter III of the [NSF Proposal and Award Policies and Procedures Guide](#) (PAPPG) (NSF 17-1):

All NSF proposals are evaluated through use of the two National Science Board approved merit review criteria. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two merit review criteria are listed below. Both criteria are to be given full consideration during the review and decision-making processes; each criterion is necessary but neither, by itself, is sufficient. Therefore, proposers must fully address both criteria. (Chapter II.C.2.d.i. contains additional information for use by proposers in development of the Project Description section of the proposal.) Reviewers are strongly encouraged to review the criteria, including Chapter II.C.2.d.i., prior to the review of a proposal.

When evaluating NSF proposals, reviewers will be asked to consider what the proposers want to do, why they want to do it, how they plan to do it, how they will know if they succeed, and what benefits could accrue if the project is successful. These issues apply both to the technical aspects of the proposal and the way in which the project may make broader contributions. To that end, reviewers will be asked to evaluate all proposals against two criteria:

- Intellectual Merit: The Intellectual Merit criterion encompasses the potential to advance knowledge; and
- Broader Impacts: The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

The following elements should be considered in the review for both criteria:

1. What is the potential for the proposed activity to:
  - a. Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
  - b. Benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
4. How well qualified is the individual, team, or organization to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?

Additionally, Chapter II of the [NSF Proposal and Award Policies and Procedures Guide](#) states:

Broader impacts may be accomplished through the research itself, through the activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. NSF values the advancement of scientific knowledge and activities that contribute to achievement of societally relevant outcomes. Such outcomes include, but are not limited to: full participation of women, persons with disabilities, and underrepresented minorities in science, technology, engineering, and mathematics (STEM); improved STEM education and educator development at any level; increased public scientific literacy and public engagement with science and technology; improved well-being of individuals in society; development of a diverse, globally competitive STEM workforce; increased partnerships between academia, industry, and others;

improved national security; increased economic competitiveness of the US; and enhanced infrastructure for research and education.

#### Merit Review Criteria and GRFP

For example, reviewers evaluating applications submitted to the Graduate Research Fellowship Program may consider the following with respect to the **Intellectual Merit Criterion**: the potential of the applicant to advance knowledge based on a holistic analysis of the complete application, including the Personal, Relevant Background, and Future Goals Statement, Graduate Research Plan Statement, strength of the academic record, description of previous research experience or publication/presentations, and references. Holistic review is a flexible, individualized way of assessing an applicant's interests and competencies by which balanced consideration is given to experiences, attributes, and academic achievements and, when considered in combination, how the applicant has **demonstrated potential** for significant research achievements in STEM and STEM education. Reviewers may consider the following with respect to the **Broader Impacts Criterion**: the potential of the applicant to benefit society and contribute to the achievement of specific, desired societal outcomes based on a holistic analysis of the complete application, including by personal experiences, professional experiences, educational experiences and future plans.