



NSF Merit Review Criteria

Intellectual Merit – the potential to advance knowledge

Broader Impacts – the potential to benefit society and contribute to specific, desirable societal outcomes

FIVE ELEMENTS TO CONSIDER FOR BOTH CRITERIA:

- What is the potential of the project to:
 - Advance knowledge and understanding in the discipline or across disciplines?
What contributions are you making? Empirical? Theoretical? Methodological? Educational?
 - Benefit society and contribute to desirable societal outcomes?
- What makes the project novel? creative? transformative? significant?
- Are the project activities well organized, well thought-out, based on a sound rationale? Is there a mechanism to assess project success? Does it reveal understanding of past relevant research?
- How well qualified is the PI, the team, the institution to carry out the project?
- Do you have sufficient access to the necessary resources?

Note: Although *Intellectual Merit* and *Broader Impacts* need to be directly addressed, some of these elements will be revealed by your research plan, biosketch, cited prior work and facilities and resources statements.



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The NSF Merit Review Criteria are based on three foundational principles:

- All projects should be of the **highest quality** and have the potential to advance, if not transform, the frontiers of knowledge.
- All projects, in the aggregate, should **contribute more broadly to societal goals**. These Broader Impacts may be accomplished through the research itself, through activities directly related to the research, or through activities that are supported by , but complementary to, the project.
- **Assessment and evaluation** of NSF funded projects should be based on the appropriate metrics, keeping in mind the likely correlation between the effect of broader impacts and the resources provided to implement projects. Evaluation of limited activities, in isolation, may not be meaningful. Assessing the effectiveness of these activities may be best done at a higher level than the individual project.



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Broader Impacts – the potential to benefit society and contribute to specific, desirable societal outcomes

What might these impacts be?

- Research training for students
- Economic benefit
 - Increased economic competitiveness
 - Development of a globally competitive STEM workforce
 - Start ups
- Increased national security
- Increased public scientific literacy
 - Presentations and publications
 - Presentations to nonscientific audiences
 - Presentations to foster lifelong learning
 - Exhibits in partnership with libraries and museums
- Stronger partnerships between academia and industry
- Increased participation of women and minorities in STEM
- Increased participation by high school and undergraduate students
- Improved preK-12 and undergraduate STEM education
- Shared infrastructure for research and education