NSF's Merit Review Criteria and Proposal Review Process

QEM MRI/RIA Workshop at BWI

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Proposal Review Components

- **Intellectual Merit**
  - **Strengths and Weaknesses**

- **Broader Impacts**
  - **Strengths and Weaknesses**

- **Evaluation of results of prior NSF support**

- **Summary Statement**
  - **Clarifies strengths and weaknesses of proposal**

Review Panel

- Panel size varies-usually have 10 to 12 members
- Proposal must have a minimum of three reviews but may have more
- Each proposal is introduced and discussed by the panel- usually in terms of strengths and weaknesses
- A "Panel Summary" is prepared by a "scribe" who is one of the reviewers of that proposal
- The Panel Summary and all reviews are sent to the PI.

Ratings

- **Possible ratings that your NSF proposal can receive:**
  - Excellent
  - Very Good
  - Good
  - Fair
  - Poor

Merit Review Criteria

- **Intellectual Merit**

  The Intellectual Merit criterion encompasses the potential to advance knowledge
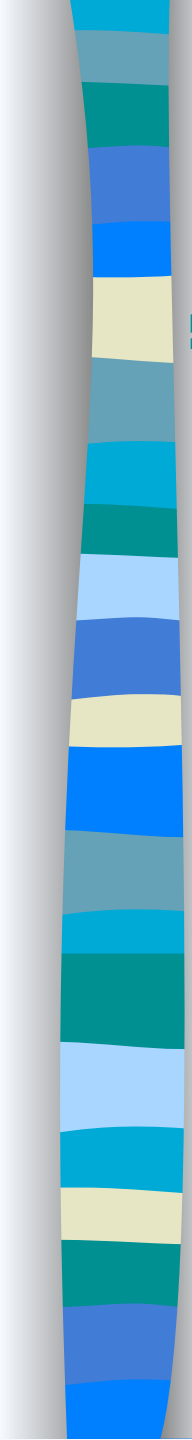
- **Broader Impacts**

  The broader impact criterion encompasses the(potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

Merit Review Elements for Both Criteria

- 1. What is the potential to:

  • Advance knowledge and understanding within Its own field or across different fields (intellectual merit); and

  • Benefit society or advance desired societal outcomes (broader impacts)?

- 2. To what extent do the <u>activities</u> suggest and explore creative, original, or potentially transformative concepts?

Merit Review Elements for Both Criteria +

- 3. Is the plan based on a sound rationale? Is there a mechanism to <u>assess</u> success?

- 4. How well <u>qualified</u> is the individual, team or institution to conduct the proposed activities?

- 5. Are there <u>adequate resources</u> available to carry out the proposed activities?

Intellectual Merit

- **What is the potential to advance knowledge?**
  - **Use references to support your proposed initiatives and activities.**
  - **Use any relevant preliminary data that may be available to support your project.**
  - **Discuss what will be learned that may help other STEM projects, as a result of implementing your proposed project.**

Proposed Activities

- Activities that are <u>creative</u>, <u>original</u>, <u>transformative</u>?
  - Is the activity feasible? Does it make sense?
  - Do the proposed activities fit well with your unique environment and your type of students?
  - Caution: Avoid too much creativity and originality…statements you do not wish to receive from reviewers "this will never work" or " is this PI from another planet?".

Intellectual Merit

- **Are PI and Personnel Well-Qualified?**

    – **Provide a brief overview of the qualifications of key personnel highlighting any unique qualifications in the narrative of your proposal**

    – **Provide a rationale or explanation for any unusual circumstance concerning personnel (a professor of English Literature in charge of improving student math scores)**

Intellectual Merit

- **Is there sufficient access to resources?**
  - **Provide assurances to the reviewers that the necessary resources, including space, labs, equipment, computers or any resources unique to your project are available.**
  - **Provide assurances that students and faculty will have appropriate access to these resources for your proposed activities.**

Intellectual Merit

- Is activity well-conceived and well-organized?
  - Provide a succinct, logical and easy to follow description of the activity.
  - Use legible graphs and tables when needed with appropriate legends and titles.
  - Avoid superfluous information.
  - Well organized proposals tend to "Keep the Reviewers Happy" That should be your goal.

Broader Impacts

- How well does the project advance discovery and understanding while promoting teaching, training and learning?

- Does activity broaden participation of underrepresented groups?

- Will activity enhance research and education infrastructure?

- Will results be disseminated broadly?

- What may be the activity's benefits to society?

Broader Impacts

- **Does activity broaden participation of underrepresented groups?**
  - **Provide a description of the underrepresented group(s) and succinctly explain to the reviewers how your proposed project will broaden their participation in STEM disciplines/careers.**

  - **Provide an explanation for any unusual or unique circumstances (only 0.5% of your students are from URM groups.)**

Broader Impacts

- **Will results be disseminated broadly?**

  - **Provide a clear description of the mechanisms that will be used to disseminate the strategies that were used to produce the glowing success of your project**

  - **Try to include a little more than 1) publications and 2) presentations at regional and national conferences and symposia.**

NSF Staff will also give Careful Consideration to the Following:

1. Integration of Research and Education

NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions.

2. Integrating Diversity into NSF Programs, Projects, and Activities

Broadening opportunities and enabling the participation of all citizens -- women and men, underrepresented minorities, and persons with disabilities -- is essential to the health and vitality of science and engineering

Proposal Weaknesses

- Fatal weaknesses: proposal cannot be funded: poor concept, unqualified personnel

- Negotiable weaknesses: may be fixed in negotiations with the Program Officer: over budget, lack of detail

Keep the Reviewer HAPPY!

Happiness of the REVIEWER IS KEY…
Therefore,

- No tiny unreadable print to circumvent the page limitation, good English, proper spelling, clear tables and graphs.

- Good table of contents (make everything easy in your proposal for the reviewer to find).