The effective NSF Reviewer (why bother, and how to do it)

The Merit (peer) Review Process

Deadline/Target Date  →  ad hoc (email) review  →  panel  →  PO makes recommendation to award or decline

Why participate, and why do it well?
- to help your community and the NSF process
- to hone your own focus on what is important to convey to others
- to earn the trust of the PO and the panelists
- to learn the latest in the field

Peer = You!  Become a reviewer by emailing your Program Director with a CV!

The Merit Review Criteria

Intellectual Merit:
- This criterion encompasses the potential to advance knowledge

Broader Impacts:
- This criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes

There are five Review Elements for BOTH of the above 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 it incorporate a mechanism to assess success?

4. How well qualified is the individual, team, or institution to conduct the proposed activities?

5. Are there adequate resources available to the PI (either at the home institution or through collaborations) to carry out the proposed activities?
Who are the ad hoc reviewers and panelists?

Accomplished, Dedicated, Knowledgeable, Conscientious, Fair.

Over-committed and overworked, Underpaid for their efforts (or not at all), Inherently skeptical, Varied in critical style, Human. *(YOU!)*

Your great NSF review...

Explains the significance of the problem and evaluates its justification

Evaluates approach
- are there falsifiable hypotheses and/or researchable questions?
- is the ‘experiment’ design connected to the hypotheses and/or questions?

Is succinct, providing sufficient rationale to justify the rating

Touches on strengths and weakness with respect to both review criteria

Is understandable to a broad technical audience (remember that the Program Director may not be an expert in the subdiscipline)

Withstands scrutiny at all levels within the NSF process (including the Division Director, who must sign off, and the Committee of Visitors, who evaluates decisions)

*A review of an excellent project should generate excitement in the reader*

The other side of the coin: being declined

It happens to everyone, except those who don’t submit
Learn from it; Interpret reviews thoughtfully; don’t take them personally
Identify common themes across different reviews (weaknesses AND strengths)
Don’t fixate on minutia + cranky comments
Ask a friend/colleague to read the reviews objectively
Be persistent, but know when it is time to move on

Know that NSF receives very few poor proposals – most are good, competitive science.
Remember that several factors go into each decision (portfolio balance, career stage, NSF’s budget, etc).