Webinar for Reviewers of NSF S-STEM Proposals
(May/June 2018)

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Webinar Overview

1. Key Features of the S-STEM Program
2. Logistics of the Review Process
3. Video on Reviewer Expectations (20m)
4. Common Proposal Issues Raising Concerns
5. Questions & Answers

First – Thank You!

- NSF appreciates your service as reviewers.
- Reviewers are foundational to program success.
- NSF is acknowledged as the "gold standard" for merit review and that includes using professionals like you.

The "New" S-STEM Program

"Old" S-STEM Before FY2015

- All awards were maximum $600k over 5 years
- 85% of the award amount was allotted to direct student support or scholarships

"New" S-STEM Funding

- At least 60% of the funds must be used for scholarships
- Up to 40% of funds may be used for other things – support structures, research, recruitment, etc.

Why the change?

- Scholarships are not enough
- Many more support structures are now possible
- A more systematic determination of what support structures are effective will benefit the STEM education community.

S-STEM Program: Core Purpose

- <u>Improve</u> the STEM workforce by increasing the number of students who
  - graduate with STEM degrees
  - transfer from 2-year to 4-year programs
  - transfer to graduate school
  - overcome an institutional attrition point
  - enter the STEM workforce

- <u>Provide</u> Scholarships
  - Academically Talented
  - Low-income students with demonstrated financial need

- <u>Inform</u> STEM education community
  - Generate knowledge about effects of high-impact practices on low-income students
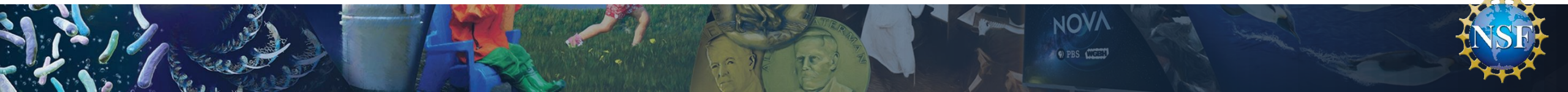
Goals of the S-STEM Program (17-527)

- To <u>increase</u> the recruitment, retention, student success, and graduation (and transfer) of low-income academically talented students in STEM.

- To implement and <u>study</u> models, effective practices, and/or strategies that contribute to success in STEM.

- To <u>contribute to the implementation</u> and sustainability of effective curricular and co-curricular activities in STEM education.

S-STEM Proposal Categories

- Track 1 – S-STEM Institutional Capacity Building
  - $650k total for maximum duration of 5 years
- Track 2 – Design and Development: Single Institution
  - $1M total for maximum duration of 5 years
- Track 3 – Design and Development: Multi-Institutional Consortia
  - $5M total for maximum duration of 5 years

Cohorts and Faculty Mentors Required

- Provide <u>faculty mentors</u> for S-STEM Scholars

- Develop a <u>cohort experience</u> for the scholarship recipients.

- Most successful S-STEM scholarship projects involve faculty mentors and a group of students who form a cohort.
  - A cohort is a group of students who in some way naturally associate.
  - The project plan should include activities to establish a cohort of students who receive scholarships.

Institutional needs

- Encourage efforts that are focused on well-documented institutional needs or concerns.

- Strongly encourages proposals to build on completed needs analyses or institutional scans.

- Base proposal activities and planned interventions on local circumstances and opportunities.

S-STEM Management Team

S-STEM project management team must be composed of:

- **<u>Faculty member</u>** currently teaching in one of the S-STEM disciplines
  - STEM disciplinary expertise

- **<u>STEM Administrator</u>**
  - Able to communicate across functional units at the institution
  - Experience with issues students majoring in STEM may face

- An institutional, educational, discipline-based educational, or social science **<u>researcher</u>** at the institution or from another institution or research organization
  - Education, DBER, social science, change expertise

Evidence-Based / Knowledge-Generating

- Implement / adapt and study
  - Effective high quality curricular and co-curricular activities and professional development.
  - Activities tailored to students, STEM faculty, and different types of institutional contexts.
- Know what has been done! Use the literature.
- Inform the community of the results!
  - When we evaluate projects in the area of knowledge generation, the best projects include knowledge generation with clearly stated questions to focus and guide what is being investgated.

Part 2:
S-STEM Review Process

Checklist of Reviewer Tasks

❑ Login To Fastlane (Change your password)

❑ Sign and return your COI/confidentiality (1230P) form to NSF

❑ Access Proposals Assigned To You

- Each reviewer has been assigned 8-11 proposals to read; there may be up to 15 proposals on your panel (you only need to review at most 11)
- Download proposals as PDFs and check for COIs by searching for your name and/or Institution in the text. Discuss any suspected COIs with your panel's Program Officer

❑ Make Your Travel Arrangements (Must use ADTRAV for flights, own hotel reservations)

❑ Update your banking information in Fastlane to expedite reviewer stipend payment

Checklist of Reviewer Tasks (cont'd)

❑ Read Solicitation 17-527

❑ Become familiar with merit review criteria

    ❑ Review criteria are summarized in this Webinar

❑ Read, rate and write reviews for all proposals for which you are the Primary and Secondary Panelist

❑ Check that the proposals you have reviewed are the same as your proposal assignment

❑ Travel to NSF building in Alexandria, VA in time for a 8:30am start time for your panel's first day (Session A: May 3-4, Session B: May 7-8, Session C: May 10-11, Session D: June 4-5)

Your Responsibility as a Reviewer

- Two days *before* the panel begins:

  - ✓Have read, reviewed and submitted a rating and review for ALL proposals assigned to you (this includes all proposals for which you are a **primary** or **secondary** panelist).

- During the panel:

  - ✓Discuss each of the reviewed proposals with other panelists.

  - ✓If necessary, modify your review and rating following the discussion.

  - ✓A scribe prepares a panel summary for each assigned proposal.

  - ✓Provide feedback to NSF on program and review process.

Individual Reviews

- PLEASE don't wait until the last minute to transfer reviews from your computer to ***FastLane!***

- **Summarize** strengths and weaknesses you identify in proposal, and discuss *why they are strengths or weaknesses.*

    - The review should include a discussion of the Intellectual Merit and Broader Impacts you see in the proposal. (Video will explain more)

- You can modify the review and change the rating after discussion with the rest of your panel if you wish.
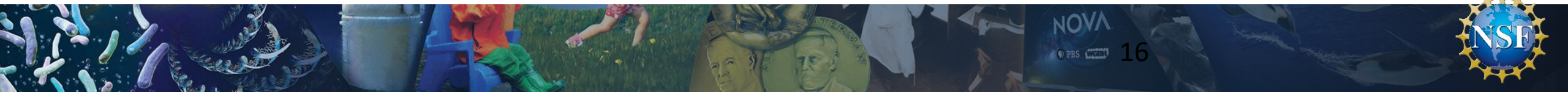
Reviewer Ratings

Excellent - outstanding, highest priority. May have a few flaws that can be improved via negotiation.

Very Good - has merit, fund if possible. Flaws can be corrected.

Good - has some merit, not a high priority but could fund.

Fair - lacking in several critical aspects; an active recommendation against funding even if money were available.

Poor – many serious deficiencies; a waste of time for both the proposer and the reviewer.

-Give only **one** rating, and explain why you selected that rating.

-You may change ratings after the panel discussion if you wish.

PLEASE make sure the rating and your review narrative are consistent and aligned.

Audience for Reviews

- As reviewers, you make recommendations to NSF Program Officers and provide important feedback to the authors of the proposal.

- **NSF Program Officers** use reviews as valuable input to recommend proposals for funding.

- **Proposers**, if not funded, may re-think and perhaps revise for future submission.

- **Verbatim c**opies of your reviews are provided to the proposers so make sure your critiques use professional language.

Part 3:
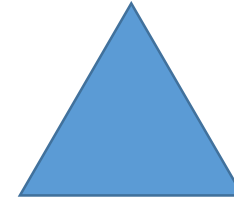# The Art and Science of Reviewing Proposals
(Video: 20mins)

Click here to make the video full screen
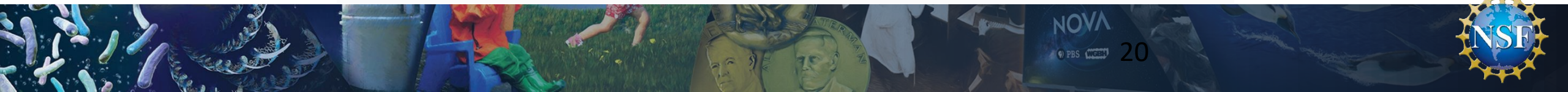
COI Issues (Poll)

Part 4:
Frequently Asked Questions

FAQ: Possible Areas of Confusion

1. Tackling Diversity

2. Support for non-scholarship students

3. All projects should be "knowledge generating"

4. Supported Majors

5. Research Projects

6. Development of Support Structures

Proposals Focusing on Diversity

Issue: Some proposals will describe specifically focusing on awarding scholarships to students from an under-represented group.

Background:

- The requirements for a student to receive an S-STEM scholarship are academic talent and demonstrated financial need.

- How can proposals promote diversity?
  - The student population of the school
  - Through recruiting applicants
    - But all applicants who meet the requirements should have an **equal chance** at getting a S-STEM scholarship
  - Through support mechanisms
    - Best if driven by educational research describing how particular mechanisms are ideal for improving particular problems.

Support for Non-Scholarship Students

Issue: Some proposals may state that support mechanisms (tutor rooms, visiting speakers from industry, etc.) are only available for "S-STEM scholars"

Background: Scholarship recipients must have

- Academic ability or potential to succeed in STEM
- Demonstrated financial need

But non-scholarship students (who may not meet this criteria) can certainly take advantage of support services.

Recommendation: We want all S-STEM support services to have the maximum impact possible. Please comment in your review upon how well that is being achieved in a proposal.

Knowledge Generation

Issue: Some proposals may appear to be "totally focused" on simply giving out scholarships.

Background: A major goal of the program is that all proposals should be "knowledge generating." They should be gathering information on their unique thrust. For example projects could investigate

- Particular workforce needs
- Instructional approaches or
- Support structures that target "weaknesses" identified in an institutional scan

Recommendation: Please evaluate a proposal's "knowledge generation" in your reviews. It is of major importance because want to learn how to best award scholarships to have the maximum impact.

Supported Majors

- Issue: A number of disciplines are listed in the solicitation as STEM disciplines (and associated technology fields) that are clearly supported. And there are numerous disciplines that clearly shouldn't be classified as STEM disciplines and are NOT supported by S-STEM. There are also many disciplines in between that are challenging to classify.

- Recommendation: If the disciplinary focus of the scholarships is unclear to reviewers, it should be discussed during panel.

Research Stipends

Issue: The new solicitation allows S-STEM funding to be used for summer research stipends.

Background: A few rules are quite clear.

- **Funding must come from the non-scholarship <40% of an award**
- **Participation must be optional**
- **Allows students to exceed the $10k/year limit for scholarships**

Recommendation: Please evaluate in your reviews how well the research stipends "fits" within the overall goals, support structures, and contributions to the knowledge base of the project. Research can clearly be an incredibly important experience for students, but there is the potential for abuse (internships in industry even more so).

Development of Support Structures

Issue: Some proposals may promise to develop support mechanisms to remedy the attrition points identified in their institutional scan.

Background: There is a vast collection of resources and knowledge base related to student support structures documented in educational research. Institutions are expected to familiarize themselves with existing resources relevant to their particular challenges and <u>adapt</u> them appropriately. They should not be designing/creating! There are many wheels already invented!

Recommendation: Please evaluate in your reviews how well proposals make use of the existing support structure knowledge and tools.

Thank you for your participation.

Any questions?

Summary and Closing

- We discussed what the S-STEM program is about to provide you information (more is found at NSF.gov, S-STEM program website)

- We discussed logistics to be handled by reviewers prior to panel

- We watched a video about enhancing the merit review process

- We talked about some of the confusing issues when reviewing for S-STEM

The webinar recording and slides will be posted for reference on the S-STEM website

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Have a great evening!!!!