Information & Intelligent Systems (IIS) Division
Computer & Information Science & Engineering (CISE) Directorate
National Science Foundation

SCH – Smart & Connected Health
NSF 16-601

Administrative Support:
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Acknowledgment

• You are performing a valued public service and we appreciate your hard work prior to and during the panel meeting.
• Your participation is very important to the research and education community!
• Thanks to NSF administrative staff for their assistance with panel logistics.
Meeting Sign-In

First time, correct any mistakes in the spelling of your name, address, or demographic information.

Needed for payment.
Do this every day of the panel!
COI: Kinds

• Institutional ("statutory")
  – Current, previous (12 months) or possible future employment
  – Employment of spouse or children
  – Paid participation in advisory committees, honorariums, etc.

• Personal ("regulatory")
  – Thesis advisor or advisee relationship
  – Co-author of paper, project collaborator within past 48 months
  – Family member or close friend
COI: Examples

- Close friend, relative, or business partner (forever)
- Student or advisor relationship (forever)
- Current or previous employee or possible future employment at the institution (12 months)
- Payment (e.g., honorarium) from institution or individual (12 months)
- Collaborator on paper (48 months)
- Co-editor of a journal, compendium, or conference proceedings (24 months)
- Person with whom you have had a dispute
COI: What Everyone Must Do

- Turn in NSF Conflict-of-Interest form
  - Sign the form to certify that you were briefed on COIs
- Talk over possible conflicts with NSF program officer
- Declare actual and perceived conflicts
- If you have a conflict, leave room during discussion
- Sign additional COI form, for NIH, at the end of the panel meeting, before leaving
Allegations

• Suspicion/allegation of academic dishonesty or plagiarism in a proposal
  – discuss ASAP with PO – not with panel
  – will be referred to the OIG
  – may pose COI issue – discuss with PO
Confidentiality

• Proposals contain sensitive information, and are not in the public domain
• Do not
  – disclose identities of reviewers
  – disclose identities of people associated with proposals (PI, Co-PIs, Consultants, etc.)
  – discuss proposals or results outside the panel room, or without the presence of an NSF staff member
  – mention names of other reviewers in reviews or Panel Summary
  – copy, distribute or quote from proposals
• You can indicate (e.g., on a resume) that you served NSF on a review panel – just don’t identify which panel(s)
• Panel makes recommendations, not decisions. You can see the list of funded proposals using Award Search
  http://www.nsf.gov/awardsearch/
SCH Program Overview


• Supports collaborations of CISE, ENG and SBE research

• Integrative Projects:
  – ≤ $2,000,000 total cost, up to 4 years
  – multi-disciplinary team
  – at least two of CISE, ENG, and SBE
  – Collaboration/Coordination Plan required
SCH Program Scope

• Goal = develop solutions that would transform our health or healthcare
• The work to be funded by this solicitation
  – Must address a key health problem
  – Must make a fundamental contribution to engineering, computer and information sciences, or social, behavioral and economic sciences.
• Research team must include members with appropriate and demonstrable expertise in the major areas involved in the work.
• Activities should complement rather than duplicate the core programs of the NSF directorates and the research efforts supported by other agencies such as the NIH, Agency for Healthcare Research and Quality, and NIST.
• SCH does support evaluation, but not support clinical trials.
NSF Merit Review Elements

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?

Consider in top-down order.
Apply to broader impact activities as well as research.
What are Broader Impacts?

• Implicit (new knowledge, field, benefits to society ...)
• Explicit (technology transfer, results dissemination ...)
• Integration of Research and Education
  – Development of curriculum and supporting materials
  – Student involvement in emerging research and technology
  – Postdoctoral training (plan required if the proposal requests funding for one or more postdocs)
  – Data management (plan required)
• Broadening participation of underrepresented groups
  – Computer Science education, computer systems workforce
  – Gender, ethnicity, disability, geographic, etc.

  • **CANNOT JUST BE THE HEALTH IMPACT**
SCH-Specific Review Criteria

- Participation of health professionals, client groups, etc.
- Infrastructure planning & software sharing
- Survivability – commercialization, translation to practice
- Impact – on health and/or healthcare
- Collaboration & Management – team integration
- Education & Training – integrated with research
- Potential for novel functionalities and features, user-friendliness, interoperability, scaling, extensibility, durability, patient-centeredness, machine learning, and direct application to advancing the nation's health

Consider these when evaluating merits of proposals that are in-scope for the program.
NSF Reviewer Proposal Rating

• **Excellent** Outstanding proposal in all respects; deserves highest priority for support.

• **Very Good** High quality proposal in nearly all respects; should be supported if at all possible.

• **Good** A quality proposal, worthy of support.

• **Fair** Proposal lacking in one or more critical aspects; key issues need to be addressed.

• **Poor** Proposal has serious deficiencies.
Required Supplementary Documents

- Data Management Plan (all)
  - Definition of “data” and the adequacy of the management plan is determined by the community of interest through the process of peer review and program management
- Post Doctoral Mentoring Plan (only if postdocs involved)
- Collaboration/Coordination Plan required for INT proposals
- Human Subjects Protection (if necessary)
- Vertebrate Animals (only if animal subjects involved)
- Letters of Commitment
  - time of participants not in the budget
  - facilities, data, and other resources
  - but no letters of recommendation or endorsement!
- List of Project Personnel

Please review and comment on these as well as the project description. If a required component is missing, tell the program officer immediately, as it may be cause for return without review.
Collaboration/Coordination Plan

• Justifies the level of investment requested, and demonstrates that the participating investigators will work synergistically to accomplish project objectives **Required for all proposals.**

• Typical elements:
  – specific **roles** of project participants in all organizations involved
  – how the project will be **managed** across all the investigators, institutions, and/or disciplines
  – specific coordination **mechanisms** that will ensure cross-investigator, cross-institution, and/or cross-discipline scientific integration (e.g., yearly workshops, graduate student exchange, project team meetings at conferences, use of the grid for videoconferences, software repositories, etc.)
  – specific references to **budget** line items that support collaboration and coordination mechanism
Discussion Process

• Lead reviewer
  – may be same as scribe for some panels
  – starts with unbiased summary of proposal, for the benefit of panelists who have not read it (≤ 3 minutes)
  – then gives own critical evaluation of proposal (2 minutes)

• Other reviewers add to or disagree with points made by lead

• Other panelists ask questions and comment based on own expertise and/or reading of proposal

• Scribe takes notes for NSF panel summary, asks questions if any required points have not been discussed

• Conflict of interest: Need to leave room during discussion and rankings
External Reviews

• If reviewer is not present at panel meeting
• Review must be read by all panelists
• An assigned panelist is the “voice” of the external reviewer(s) during the discussion of the proposal
Panel Objectives

• Provide informative feedback to the proposers
  – Even the best proposals can benefit from advice
  – The weaker the proposal the more crucial the feedback
• Provide advice to NSF/NIH officers for making award recommendations
• Provide basis for decision making by higher-level NSF/NIH management in approving (or not) funding or declination recommendations

The panel’s recommendations are advisory—funding decisions must also consider a variety of other issues.
Panel Outputs

• Individual reviews for each proposal
  – OK to modify reviews, including change of rating
  – Ensure your review text supports your rating
  – Be sure any modifications to reviews are recorded in FastLane! These MUST be made BEFORE leaving your panel
• NIH ratings & forms
• NSF rating & panel summary for each proposal
  – Initially framed by one reviewer who serves as scribe
  – Use the provided template!
  – Should reflect discussion (not just restate individual reviews)
  – Includes short, clear comments to help unsuccessful PIs improve their proposals in the next competition
  – Should be written in 3rd-person and proof-read by all assigned panelists
The proposer will receive...

- verbatim copies of your NSF reviews
- verbatim panel summary
- award or declination letter and context information

- **Comments should be clear, informative, non-inflammatory, and non-discriminatory**
- **Do not include identifying information about yourself, other panelists, or other proposals**
NSF Panel Recommendation

Categories

• Highly Competitive – top priority for funding
• Competitive – worthy of funding
• Low Competitive – deficient on one or more ways
• Not Competitive – deficient in multiple ways, do not encourage to revise
• Not Discussed in Panel – triaged, major deficiencies, or just not appropriate for this program

Rank order only within HC and C
Triage

The panel may agree not to discuss proposals that received uniformly unenthusiastic reviews, < V scores. The triage decision will be based on unanimous consent by the panel. Any panelist may request that a proposal be discussed.

- Triaged proposals are categorized as “Not Discussed in Panel”
- PIs receive verbatim copies of individual reviews
- Triage Panel Summary.

In these cases individual reviews must be detailed and address all review criteria.
Triaged Proposals

• Are categorized as “Not Discussed in Panel” for NSF and “Not Discussed” for NIH
• PIs receive verbatim copies of individual reviews
• Triage Panel Summary

The Triage Panel Summary cannot be used if there has been any discussion of the proposal.
Review Process & Criteria

NSF/NIH joint review panels

Proposals that NIH would like to fund will be selected and the PIs will be asked to submit them (without any changes to the project description) in the NIH format.

Reviewers
NSF PD
NIH SRO

Interagency funding meeting

NSF award recommendations

NIH award recommendations

reviews, summaries, qualitative recommendations
reviews, summaries, quantitative scores
NIH Core Review Criteria

• Overall Impact = likelihood of a sustained, powerful influence on the research field(s)
  – Includes the significance of the project, investigator qualities, innovation of the project, strength of the approach, research environment (including collaborations)
NIH Additional Review Criteria

• Protections for Human Subjects
  – Risks, protections, potential benefits, importance
  – Data and safety monitoring for clinical trials
• Inclusion of Women, Minorities, and Children
  – Adequacy of the plans to include both genders, minorities and their subgroups, and children (<18 years) as appropriate to the scientific goals of the research
• Vertebrate Animals
• Biohazards

Not Scored
• Adequacy of the Data Management Plan and resource sharing
• Budget & Period of Support
Overall Impact:
The likelihood for a project to exert a sustained, powerful influence on research field(s) involved

### Evaluating Overall Impact:
Consider the 5 criteria: significance, investigator, innovation, approach, environment (weighted based on reviewer’s judgment) and other score influences (e.g. human subjects)

<table>
<thead>
<tr>
<th>Overall Impact</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>1 2 3</td>
<td>4 5 6</td>
<td>7 8 9</td>
</tr>
</tbody>
</table>

- e.g. Applications are addressing a problem of high importance/interest in the field. May have some or no technical weaknesses.
- e.g. Applications may be addressing a problem of high importance in the field, but weaknesses in the criteria bring down the overall impact to medium.
- e.g. Applications may be addressing a problem of moderate/high importance in the field, but weaknesses in the criteria bring down the overall impact to low.
- e.g. Applications may be addressing a problem of low or no importance in the field, with some or no technical weaknesses.

5 is a good medium-impact application, and the entire scale (1-9) should always be considered.
NSF-NIH Scoring Guide

These are typical values, not rules.
Panel Summaries

• **Use the template that is provided**
• Each panel summary must address:
  – Intellectual Merit (strengths and weaknesses)
  – Broader Impacts (strengths and weaknesses)
  – Solicitation-specific criteria (strengths and weaknesses)
  – Panel recommendation and rationale
  – Suggested improvements (optional)
• Panel Recommendation
  – Recommendation category, and a sentence or two summarizing reasons.
  – e.g., “The panel classified this proposal as Competitive. The principal reasons are ...”

This summary was read by all and the panel concurred that the summary accurately reflects the panel discussion.

Last sentence must be verbatim.
Fit Summary to Recommendation

• Highly Competitive
  – Argue for funding priority.
• Competitive
  – Argue why it is worthy of funding
  – May have some concerns, advice to PI for improvement if not funded
• Low Competitive
  – Point out aspects that are worthy, and aspects that are not
• Not Competitive
  – Explain what it wrong and why it is not a good idea for research or is not a good fit for the program
• Not Discussed in Panel
  – Must use Triage Panel Summary

Mainly to convince NSF management.
Mainly for the benefit of the PI.
Evaluation & Writing Guidelines
Minimize Bias in Evaluation

• Be conscious of possible sources of bias
• Rate only on explicit review criteria
  – Identify specific strengths and weaknesses
• Point to specific evidence in supporting judgments
• Avoid bias “creep”
  – Small bias in same direction has large effect over time
  – Very small differences in treatment can have major consequences in salary, promotion and prestige
NSF and NIH thank you!
Fastlane: Panelist Functions

FastLane is an interactive real-time system used to conduct NSF business over the Internet. FastLane is for official NSF use only. More About FastLane...

Panelist Functions

Log in for the following permission based functions:


Panel Review
- Interactive Panel System
- Travel and Reimbursement System
- Panelist Personal Information

Notice: After you log in, check your Reviewer Information and verify that the e-mail address shown is correct. If you forget your password, we will send your re-set password to this e-mail address. Access to the Interactive Panel System requires that JavaScript be enabled on your browser.
Using the Interactive Panel System

• Log into FastLane
• Be sure to not un-check the box to DISABLE the refresh!
• Go to “Meeting Sign-In” before “Interactive Panel System”
Meeting Sign-In

First time, correct any mistakes in the spelling of your name, address, or demographic information.

Needed for payment.
Do this every day of the panel!
Interactive Panel System

First time, correct any mistakes in the spelling of your name, address, or demographic information.

Needed for payment.
Do this every day of the panel!
Scribe’s window for Panel Summary
Pasting Summary Into Form

• Scribes - prepare your draft of the panel summary in MS Word (Notepad) and then copy-and-paste it into text box under “summary” tab

• Beware that Fastlane will convert many special symbols to question marks “?” (See more detailed instructions to come.)

• Click “Save” and then click “Submit Draft for Comment.”
Panelist Comment Form

- All panelists must read the panel summary, and can suggest corrections or changes by using the “Write Comment” tab.
Viewing Comments

– All comments made can be viewed in the “View Comment” tab
– Scribes, be sure to watch for comments from reviewers and program officer!
– When the panel summary looks good, reviewing panelists must approve the panel summary by commenting that it “looks good”, “OK”, “I approve”, etc.
Submit for Final Approval

• When all relevant panelists are comfortable with the text and have approved, the moderator will let the scribe know the panel summary can be submitted for approval. The scribe will then click the “Submit for Approval” button.
Revising a Review or Rating

Do this in a new browser session, not while in the Interactive Panel system!