

Minutes of the Merit Review Process Advisory Committee meeting
October 12, 2011 12 to 4 pm
National Science Foundation, 4201 Wilson Boulevard, Arlington, VA. Room II-515.

AGENDA

Noon	Welcome & Introduction	AC co-chairs & WG co-chairs
12:10	Review of charge and topics from last meeting	WG co-chairs
12:30	Discussion of possible pilot experiments	WG & AC members
2:00	Break	
2:10	Discussion of possible pilot experiments (cont'd)	WG & AC members
3:30	Outreach	WG co-chairs
3:45	Closing comments	AC co-chairs
4:00	Adjourn	

PARTICIPANTS

AC members: Kaye Husbands-Fealing (co-chair), Tom Knight (co-chair), Patrick Farrell, Evelyn Hammonds, John King, Jim Kurose, Richard Ladner, Jerzy Lesczinski, Stephanie Pfirman, Walter Robinson

NSF Staff: David Croson, Jean Feldman, Vickie Fung, Sven Koenig, Fred Kronz, Chuck Liarakos, Candace Major, Steve Meacham (co-chair), José Muñoz, Sara Nerlove, Jeff Rich, Brandon Stephens, Kathryn Sullivan, Susan Winter

MINUTES

The meeting opened with short welcoming remarks by the co-chairs of the Merit Review Process Working Group (MRWG) and Advisory Committee, and a technology check to make sure all remote participants could hear and be heard. Introductions of the other AC members and the MRWG members followed.

The AC was reminded that the last meeting (in July) focused mainly on background information about the NSF merit review process. There was a short review of the MRWG charge and the role of the AC in the process. The purpose of this (October) meeting was summarized: gathering the AC's input on some concrete examples of possible ways of enhancing the NSF review process that were collected from a variety of sources both external and internal (i.e., at NSF). It was stressed that the ideas that would be discussed represented a subset of all ideas that had been gathered by the MRWG, and that the MRWG is at a very early stage in evaluating these ideas for their potential impacts; presentation of the ideas was not an endorsement of the ideas or indication of intent to implement any or all. It was also noted that the MRWG is not limited to considering these eight ideas—any additional ideas from the AC members were welcomed.

There was a brief check of the WebEx meeting functions, including how the chat and hand-raising functions would be used at this meeting.

The first idea presented was the option for a principal investigator (PI) to respond to reviews prior to decision. It was noted that there are many possible variations of this general idea—at what point in the process the PIs are invited to respond, what fraction of proposals would be subject to this additional step, and what type of additional information (or correction of errors or misunderstandings) would the PIs be able to submit? Several members of the AC expressed support for the general idea. It was noted that some version

of this process has been used at NSF—with Program Officers requesting further information or clarification before a final award decision was made. It was also noted that a version of this approach is used by some European funding agencies. There was some discussion of which PIs should be included among those asked for further information—just those “on the bubble” or all submissions. Other AC members asked whether this idea would lead to a significant impact on the decisions in the end, and pointed out that it would increase workload for both PIs and NSF staff. Other pros and cons and possible mitigation strategies were discussed, but overall the AC members were in favor of trying a pilot of this idea.

The next idea discussed was the return of non-competitive proposals without external review. It was noted that this idea came from a number of different sources within the research community, and that it was also discussed in recent congressional testimony about the merit review process from one of the professional societies. In the latter presentation, it was suggested that fifty percent of proposals could be returned without external review. Although most AC members agreed that fifty percent was too high, there was discussion about what level might be most appropriate and recognition that, if such an approach were implemented, the level might need to vary from program to program. It was noted that some other agencies use a return without review mechanism. The AC members noted a number of potential drawbacks and risks to this approach, though there are some potential benefits in terms of the reduction in workload for the review community. One concern was that there might be an appearance of unfairness if the pure, no external review mechanism were implemented. It was further noted that perhaps a limited external review, which would provide some feedback to the program and the PI, might be an approach that would mitigate some of the downsides of no external review at all.

The next idea presented was wiki-based reviews, which is essentially an asynchronous, chat-based approach to external merit review. The core idea and some variations were highlighted, and it was noted that this mechanism is used quite regularly to review research articles within certain disciplines (e.g., computer science). NIH has experimented with a similar approach. There was general support for this idea. AC members thought the asynchronous nature of the discussion would allow more adaptability, although some questioned the degree to which reviewers would be able to take time to engage in on-line discussions. It was noted that this mechanism could be easily combined with others under consideration by the MRWG, and also that it would have a significant benefit for reviewers working in different time zones. It was further pointed out that this is a fairly flexible mechanism that could be implemented essentially as a virtual panel or as a group of ad hoc reviewers discussing a single proposal. The pros and cons of anonymous vs. identified reviewers were discussed.

Another topic discussed was increased use of virtual panels. One AC member noted that virtual communication technologies are widely used in the business world and, although the technologies are not perfect, they do allow for broader participation and travel avoidance. It was suggested that simpler technologies (those that provide the basic tools necessary for any particular application) are probably best at this point. Most thought that video was important. Though the AC members did note some of the challenges associated with virtual panels, they thought that most could be mitigated with training of panelists, and overall felt there were a lot of upsides to this idea. AC members suggested that NSF could and should leverage these benefits to drive technological improvements. It was noted that the use of virtual panels could be combined with other ideas for a hybrid approach to merit review.

The next topic was making more use of ad hoc reviews. Ad hoc reviews are used extensively in a number of NSF programs, but others are using fewer ad hoc reviews and, instead, relying increasingly on panel-only review because of the growth in numbers of proposals. One AC member pointed out that there are many reviewers who would be willing to provide ad hoc reviews, but not to participate in panels. Other benefits noted were the finer-scale tailoring of reviewer expertise to proposal review, and the fact that it avoids the pitfalls associated with “group-think” in panels. AC members were cool to the notion of having a reviewer record that included some rating of reviewer performance. A MRWG member pointed out that there are potential technological improvements to NSF systems (e.g., databases, bibliometric processes, automated reviewer suggestions, automated notifications) that could facilitate the use of ad hoc reviewers for programs that feel it is too onerous. One AC member pointed out that using ad hoc reviews allows programs to tap into international expertise, which is only possible in a very limited way (if at all) with face-to-face panels or synchronous virtual panels. Though most thought ad hoc reviewers could provide important specific input, they also felt that the group discussion in panel setting had benefits, particularly for interdisciplinary projects. One AC member suggested that comparing results from a panel that had access to ad hoc reviews with another that did not (using the same set of proposals) would be an interesting experiment.

The next topic was double-blind review. This mechanism is advocated by some in the community who feel this would address systematic biases. Different variations of a possible double blind review process were described. AC members raised a number of concerns about this idea, including: 1) how the PI’s expertise and ability to carry out the project would be assessed, 2) in many cases it might be obvious who the PI was, 3) a two-stage process would increase work-load. On the other hand, another AC member thought this might really put the notion that “NSF funds ideas , not people” to the test, and thought it was worth doing a pilot study. An NSF staff member noted that, while reviewers may think they can identify PIs based on the work proposed, in fact, they do not guess very accurately. It was noted that the issue of bias, implicit or otherwise, is important but not well understood.

The discussion of increased use of preliminary proposals started with discussion of the BIO directorate’s recent move to require pre-proposals for all proposals to its core programs in two divisions. Though not specific to the pre-proposal idea, it was suggested that it might be interesting to consider a mechanism where some modest level of support could be provided for proposals that didn’t “make the cut” to full proposal level, but contained promising ideas, and that this might keep more risky ideas and new investigators submitting to programs that don’t have very high success rates. It was agreed that pre-proposals would not be appropriate in all cases, but might be useful in cases that required demonstration of team interactions and concept viability for big interdisciplinary projects. Also, it would focus the final discussions on projects that had the most likelihood of being funded.

The final topic was the use of prizes. This idea has been proposed as a mechanism for incentivizing and funding pursuit of novel ideas to address specific challenges. NSF currently has only a small number of such prize mechanisms (e.g. the visualization challenge and the US IGNITE program). It was noted that this approach could bring people into the research process that don’t normally participate. However, AC members questioned whether it was worthwhile for NSF to get involved in small prizes, since it could require a lot of work for fairly small impact. It was noted that industry is making very effective use of prizes. Finally, it was noted that prizes are valuable for certain types of work, and may be most effective as a means to encourage translational research.

A wrap-up discussion of the ideas centered around how to balance the relative influence of these different mechanisms on workload, quality of review, and support of innovative ideas. Impacts may be positive in one area and negative in another. One AC member suggested a more specific means of identifying highly creative ideas during panels, and another suggested that small amounts of money to pursue these ideas would be useful. This is essentially what the EAGER mechanism is meant to do, but the numbers of EAGER proposals and awards are still relatively small.

There was a final short presentation on plans for outreach and inreach. Those included presentations to a number of Directorate and Office ACs, NSF Days, RGCs, and an NSF Town Hall meeting.

The meeting was adjourned at 4 pm.