NIH Reviewer Orientation

The description below of the NIH peer review process is divided into three parts: pre-meeting responsibilities, activities at the meeting, and post-meeting responsibilities. All eligible (without Conflicts of Interest) Scientific Review Group (SRG) members participate in the evaluation of an application. The SRG members assigned to a particular application include the primary, secondary, or tertiary reviewers, and additional reviewers as needed; mail reviewers; and discussants.

This orientation guide provides an overview of the review process, and information about reviewer tasks and responsibilities.

Contents

PRE-MEETING ACTIVITIES

Summary
- Examine your review assignments, review materials (including Funding Opportunity Announcements and applications), and instructions.
- Review all applications pending review in the meeting for conflict of interest or the appearance of conflict of interest. If you perceive a conflict or have questions regarding a conflict, contact the SRO immediately.
- Review your application assignments for match with your expertise. If you have questions regarding your assignment to an application, contact the SRO immediately.
- Review the NIH Conflict of Interest Rules: Information for Reviewers of NIH Applications and R&D Contract Proposals" and complete the NIH pre-review certification.
- Make sure that you have signed a Confidentiality Certification (usually in the Internet Assisted Review module).
- Read, evaluate, and write a critique for each of your assigned applications (discussants may be asked to provide an "Overall Impact" critique).
- Gain access to and upload critiques, preliminary overall impact scores and individual criterion scores to the Internet Assisted Review (IAR) site for the applications assigned to you; a deadline will be provided by the SRO.

- Read posted critiques for your assigned applications and all other applications (access to applications where reviewer has Conflict of Interest will be denied).
- Prepare for discussions at the meeting.

Reviewing the Applications

Written Critique
- Reviewers will use bullets to note strengths and weaknesses for each of the scored review criteria, and should provide context and an explanation for their comments based on the project (e.g., refer to a Specific Aim). While brevity is acceptable, bullets should express complete thoughts and be sufficient to inform the reader.
- Reviewers will write a paragraph summarizing the factors that informed their Overall Impact score. This paragraph is not intended to be a summary and/or restatement of the strengths and weaknesses outlined in the critique. Rather, this paragraph should succinctly inform the reader (e.g., the applicant, program staff, members of council) of the underlying rationale for the Overall Impact score in consideration with the review criteria.
- Download the critique templates and enter bulleted comments directly into the document (if you prefer to compose your critique in a separate document, you may wish to "paste special" – as plain text - to retain the bulleted format).
- When finished, upload the document to IAR.
- Please see the Critique Template Instructions for more information on working with the critique templates.

Scoring
- The NIH scoring system uses a 9-point scale for the overall impact score and individual scores for (at least) five scored criteria.
  - A score of 1 indicates an exceptionally strong application with essentially no weaknesses.
  - A score of 9 indicates an application with serious and substantive weaknesses with very few strengths.
  - 5 is considered an average score.
- No formula is used to derive the overall impact score from the individual criterion scores, and reviewers are instructed to weigh the different criteria as they see fit in deriving their overall scores.
- Ratings are in whole numbers only (no decimal ratings).
- Reviewers enter scores into IAR (not on the template).
- Please see the Scoring System and Procedure for more information on scoring.
- Reviewers will score an application as presented in its entirety, and may not modify their scores on the assumption that a portion of the work proposed will be deleted or modified according to the SRG's recommendations.

Review Criteria and Considerations
- Each application is evaluated for scientific and technical merit according to the Scored Review Criteria, Additional Review Criteria, and Additional Review Considerations stated in the FOA.
- More details about the Review Criteria for common award mechanisms are found in Review Criteria at-a-Glance.

Overall Impact
- Reviewers will provide an overall impact score and critique to reflect their assessment of the likelihood for the project to exert a sustained, powerful influence

on the research field(s) involved, in consideration of the following five scored review criteria, and additional review criteria (as applicable for the project proposed). For certain mechanisms, overall impact is defined differently.

- Reviewers will provide a paragraph summarizing the factors that informed their Overall Impact score. This paragraph is not intended to be a summary and/or restatement of the strengths and weaknesses outlined in the critique. Rather, this paragraph should succinctly inform the reader (e.g., the applicant, program staff, members of council) of the underlying rationale for the Overall Impact score in consideration with the scored review criteria.
- Note that an application does not need to be strong in all categories to be judged likely to have major scientific impact and thus deserve a high impact score.
   - For example, an investigator may propose to carry out important work that by its nature is not innovative but is essential to move a field forward.
- The Overall Impact score is not necessarily the average of the individual criterion scores.

Scored Review Criteria
- Reviewers will consider each of the scored review criteria in the determination of scientific and technical merit, and give a separate score for each.
- Most Funding Opportunity Announcements have five scored review criteria.
- For example, the five scored criteria for research grant applications are Significance, Investigator(s), Innovation, Approach, and Environment.
- In evaluating the Investigator(s) review criterion, reviewers are encouraged to focus on the qualifications and expertise of the members of the research team for the work proposed, including the Personal Statement in each Biosketch. Unless the application is for a fellowship or career development award, remark about career tracks, titles, or salaries should be reserved for the Additional Comments to the Applicant box, or the Budget section.

Additional Review Criteria
- When applicable, reviewers will consider the additional review criteria in the determination of scientific and technical merit.
- Reviewers will not give separate scores for these items.
- Examples include the following (see Review Criteria at-a-Glance for details):
   - Protections for Human Subjects
   - Inclusion of Women, Minorities, and Children
   - Vertebrate Animals
   - Biohazards
   - Resubmissions
   - Renewals
   - Revisions

Additional Review Considerations
- When applicable, reviewers will comment on each of the following items, but will not assign scores and should not consider these items when determining an impact score.
- Program staff will consider reviewer comments on these items when making funding decisions.
- Examples include the following (see Review Criteria at-a-Glance for details):
   - Applications from Foreign Organizations
   - Select Agents
   - Resource Sharing Plans

- o [Budget and Period of Support](#)

Additional Comments to the Applicant
- Reviewers may provide guidance to the applicant or recommend against resubmission without fundamental revision.
- These comments need not relate directly to the scientific or technical merit of the application, do not factor into the final impact score, are not binding, and do not represent a consensus of the review panel.
- Other reviewers may not agree with these comments.
- Applicants are not obligated to address these comments when writing an introduction to a resubmission application.

MEETING ACTIVITIES

Summary
- The SRO will begin the meeting by reviewing policies and describing meeting procedures.
- In some SRGs, applications are reviewed based on the preliminary overall impact score (beginning with the best scores).
- Applications will be grouped together when feasible (e.g., same mechanisms, new investigators, or clinical applications).
- In most cases, only the more meritorious applications (based on preliminary scores) will be discussed at the meeting. All fully participating members of the SRG must concur on the recommendation to not discuss an application.
  - o Applications that are discussed at the meeting will receive a final impact score, individually assigned reviewer criterion scores, a summary statement with critiques, and a resume and summary of the discussion.
  - o Applications that are not discussed will receive summary statements containing written critiques and individual criterion scores from assigned reviewers and in some cases discussants.

Presentation and Discussion
- Applications will be introduced by the Chair of the SRG.
- Assigned reviewers will share their preliminary overall impact score and should be prepared to explain the significance of the proposed research and the overall impact the research will have on the field.
- Group discussion follows assigned reviewer presentations.
- Open discussion of scientific merit may result in disparate levels of enthusiasm.
  - o The reasons for any disparities should be made clear to allow for both an informed vote by all panel members, and also a high quality summary statement.
- Because consideration of human subject protections, inclusion plans, vertebrate animals or biohazards can reflect scientific and technical merit, these elements are discussed before moving to final scoring.

Final Score and Voting
- Based on the presentation and discussion, and the preliminary critique and overall impact scores from each assigned reviewer, each discussed application is given a score by all reviewers who are eligible to vote on that application.

- o Both regularly appointed and temporary members vote on each application for which they do not have a conflict of interest.
  - o Mail reviewers do not vote final, overall impact scores.
- Reviewers may use non-numeric impact scores, as appropriate:
  - o AB – abstain from voting
  - o CF – conflict of interest; did not participate in the discussion and scoring
  - o NP – not present during discussion
- The following scenarios require a committee decision
  - o ND - not discussed
  - o NR - not recommended for further consideration (may reflect a lack of substantial merit or serious ethical problems in human or animal use)
  - o DF - deferred
- If a particular score is considered an outlier, the reviewer must have stated his/her concerns during the discussion so that they can be reflected in the final summary statement.
- The scores from all eligible reviewers for a given application are averaged (calculated to one decimal point) to determine the final overall impact score.
- A final overall impact score and summary of the discussion will be included in the summary statement.

POST-MEETING ACTIVITIES

- After the meeting, the SRO sets an "Edit Phase" in IAR.
- Reviewers should edit their criterion scores and critiques to reflect any changes to their preliminary assessment.
- Reviewers must sign their post-meeting Conflict of Interest (COI) certification.

ETHICAL CONDUCT OF REVIEWERS

Conflict of Interest
- Situations that create conflicts of interest or the appearance of conflict of interest are described in the pre-meeting COI documents.
- Check for potential conflicts of interest (or appearances of conflicts) and alert the SRO immediately of any conflicts of which you are aware.
- During the meeting, if a reviewer has a real or apparent conflict of interest with any application, the reviewer must leave the room during evaluation and scoring of that application.
- In signing the post-review certification, each reviewer certifies that he/she did not participate in an evaluation of any application or proposal with which he/she knowingly had a conflict of interest.

Confidentiality
- Respect for the privacy of the investigators' ideas is important; all applications and related materials are privileged communications that cannot be shown to or discussed with unauthorized individuals.
- In signing the confidentiality certification, each reviewer certifies that he/she fully understands the confidential nature of the review process and agrees to confidentiality and non-disclosure.
- Reviewers are required to leave all review materials (that are not in the public domain) with the SRO at the conclusion of the review meeting.

Research Misconduct

- Research misconduct is defined as fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results, but not honest error or differences of opinion.
- It is vital that you do not make allegations of potential misconduct in the critique; instead, such concerns must be brought to the attention of the SRO in a confidential manner, preferably before the study section meets.