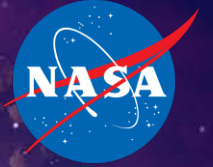


National Aeronautics and
Space Administration



EXPLORE SOLAR SYSTEM & BEYOND

Implementation of Dual-Anonymous Peer Review at NASA

Dan Evans | Astrophysics Division, NASA Headquarters

June 2, 2020

Overview



WHAT IS DUAL-ANONYMOUS PEER REVIEW?



WHICH PROGRAMS ARE CONVERTING TO DUAL-ANONYMOUS PEER REVIEW?



HOW DO I MAKE MY PROPOSAL COMPLIANT?



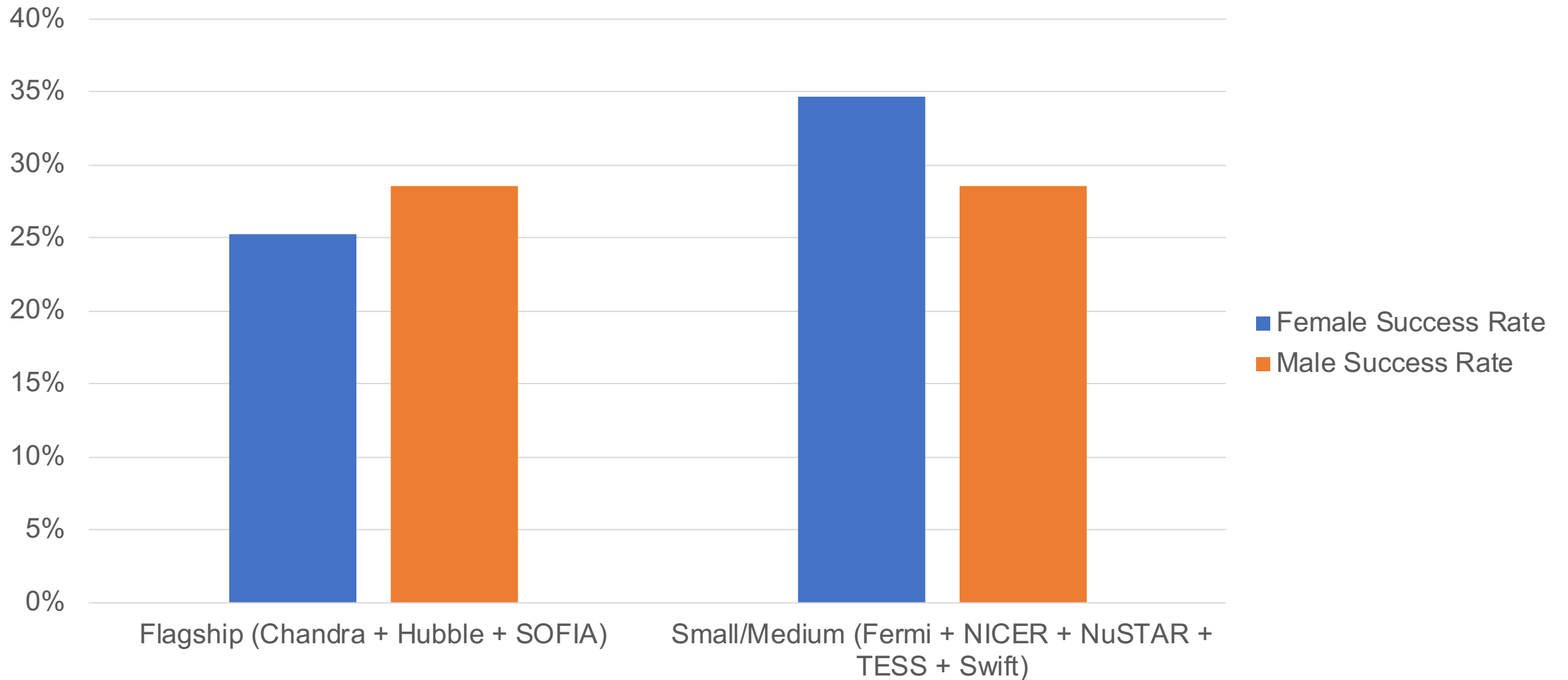
HOW IS MY PROPOSAL GOING TO BE REVIEWED?



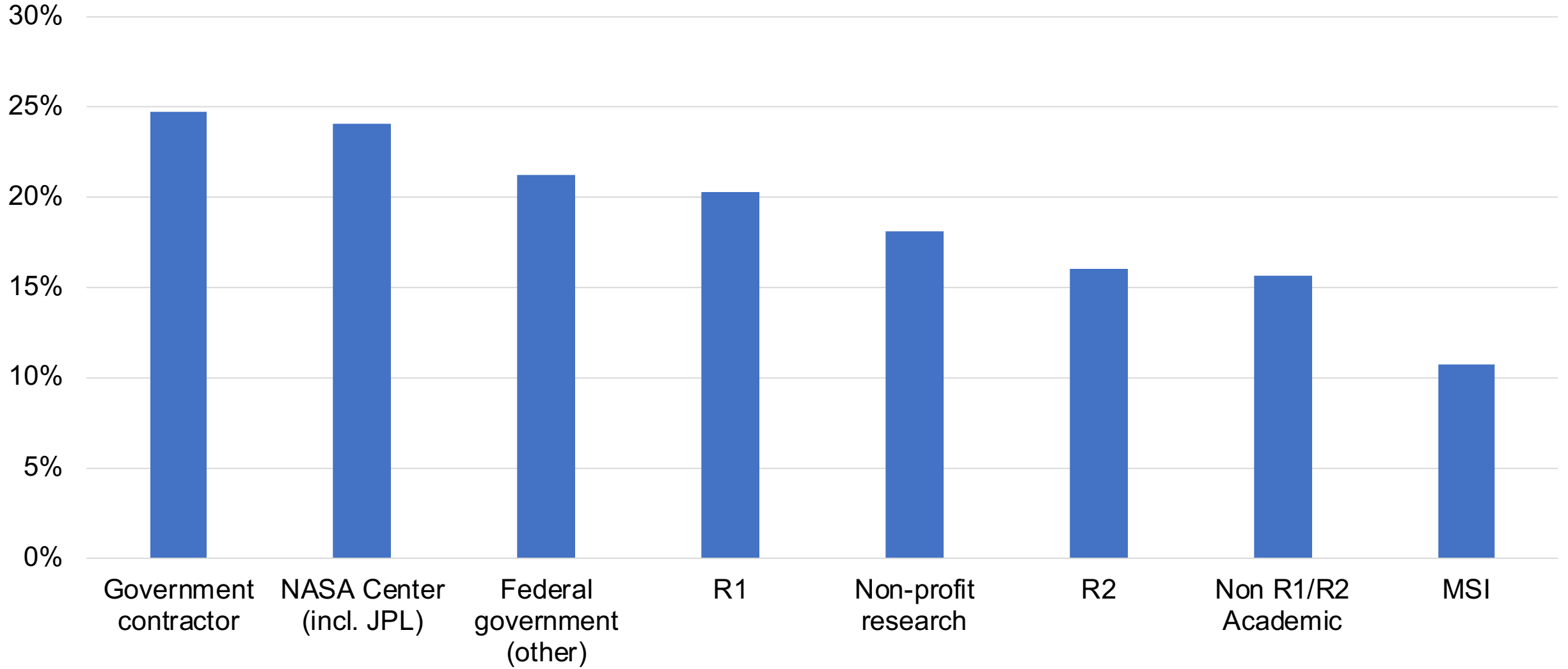
Motivation



Success Rate by (Inferred) Gender for Astrophysics GO/GI Competitions



Success Rate by Institution Type for ROSES Programs in NASA Pilot (ADAP + Earth USPI + Habitable Worlds + Heliophysics Guest Investigator)



A key goal of dual-anonymous peer review is to level the playing field for everyone.

Dual-anonymous peer review is not completely a 'blind' process.

Proposers submit (1) an anonymized proposal, and (2) a not-anonymized "Expertise and Resources" document.



The "merit" of the proposal (assessed anonymously) will be determined separately from the (not-anonymized) qualifications of the team.

Nevertheless, the qualifications, track record and access to unique facilities will form part of the evaluation.



Which Programs Are Converting to Dual-Anonymous Peer Review?





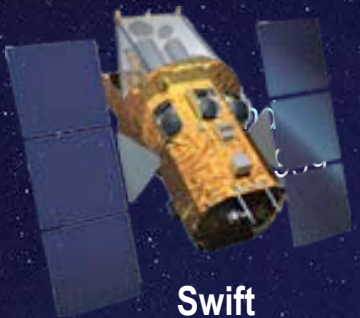
Chandra
Dual-anonymous in 2021
(separately solicited)



NuSTAR
Dual-anonymous in ROSES-19



Webb
Dual-anonymous in 2020
(separately solicited)



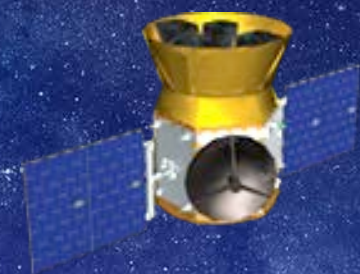
Swift
Dual-anonymous in ROSES-20



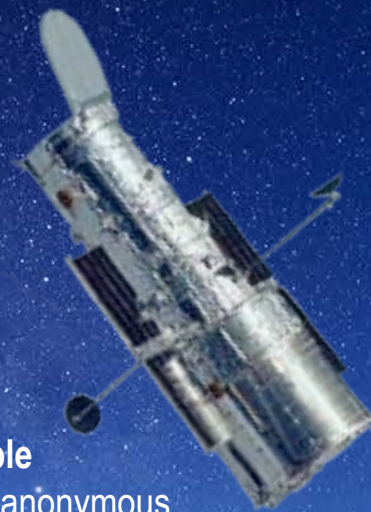
NICER
Dual-anonymous in ROSES-20



Fermi
Dual-anonymous in ROSES-20



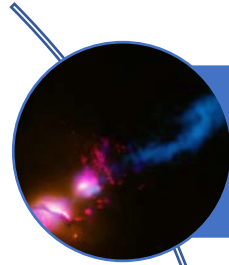
TESS
Dual-anonymous in ROSES-20



Hubble
Dual-anonymous already underway
(separately solicited)

Astrophysics GO/GI Programs are permanently converting to dual-anonymous peer review

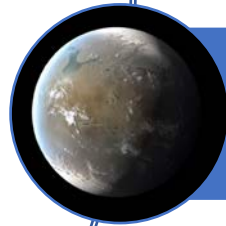
ROSES-20 Pilot



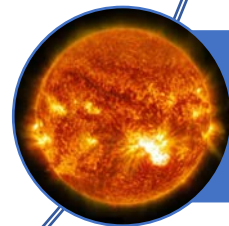
Astrophysics Data Analysis (ADAP)



Earth Science US Principal Investigator



Habitable Worlds (only Step-2 proposals will be anonymized)



Heliophysics Guest Investigator (Step-1 and Step-2 Proposals will be anonymized)



How Do I Make My Proposal Compliant With Dual-Anonymous Peer Review?



Detailed Guidance



The program element text contains specific instructions on how to prepare an anonymized proposal for that program. In addition, the NSPIRES page of each program element contains a document entitled “Guidelines for Anonymous Proposals” describes in detail the specific requirements of anonymous proposals.



A quick-start tutorial, as well as frequently asked questions, may be found at:

<https://science.nasa.gov/researchers/dual-anonymous-peer-review>



Submission of Anonymized Proposals

1. Exclude names and affiliations of the proposing team, including in figures and references to personal websites.
2. Do not claim ownership of past work, e.g., “my previously funded work...” or “our analysis shown in Baker et al. 2012...”
3. Cite references in the passive third person, e.g., “Prior analysis [1] indicates that ...”.
4. Do describe the work proposed, e.g., “We propose to do the following...” or “We will measure the effects of...”
5. Include a separate not anonymized “Expertise and Resources” document (details later on).

How Do I Reference Unpublished Work?

How Do I Reference Proprietary Results?



It may be occasionally important to cite exclusive access datasets, non-public software, unpublished data, or findings that have been presented in public before but are not citeable



Each of these may reveal (or strongly imply) the investigators on the proposal



In these instances, proposers must use language such “obtained in private communication” or “from private consultation” when referring to such potentially identifying work



Recall that the goal of dual-anonymous is to shift the tenor of the discussion, not to make it absolutely impossible to guess the team members



Institutional Access to Unique Resources

Another common situation that occurs in proposals is when a team member has institutional access to unique facilities (e.g., an observatory or laboratory) that are required to accomplish the proposed work. Here is an example:

“The team has access to telescope time on the W. M. Keck Observatory, which will enable spectroscopic follow-up of the galaxies in the sample.”

Note: in this situation, NASA recommends that the team provide detailed supporting information to validate the claim in the “Expertise and Resources – Not Anonymized” document (see later).

Example of Anonymization

In Rogers et al. (2014), we concluded that the best explanation for the dynamics of the shockwave and the spectra from both the forward-shocked ISM and the reverse-shocked ejecta is that a Type Ia supernova exploded into a preexisting wind-blown cavity. This object is the only known example of such a phenomenon, and it thus provides a unique opportunity to illuminate the nature of Type Ia supernovae and the progenitors. If our model from Rogers et al. (2014) is correct, then the single-degenerate channel for SNe Ia production must exist. We propose here for a second epoch of observations which we will compare with our first epoch obtained in 2007 to measure the proper motion of the shock wave.

Here is the same text, again re-worked following the anonymizing guidelines:

Prior work [12] concluded that the best explanation for the dynamics of the shockwave and the spectra from both the forward-shocked ISM and the reverse-shocked ejecta is that a Type Ia supernova exploded into a preexisting wind-blown cavity. This object is the only known example of such a phenomenon, and it thus provides a unique opportunity to illuminate the nature of Type Ia supernovae and the progenitors. If the model from [12] is correct, then the single-degenerate channel for SNe Ia production must exist. We propose here for a second epoch of observations which we will compare with a first epoch obtained in 2007 to measure the proper motion of the shock wave.

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Q. But... how is the capability of the team to execute the investigation taken into account?

One Addition: Expertise and Resources Document

Proposers are also required to upload a separate “Expertise and Resources – Not Anonymized” document, which is not anonymized.

The document must contain the following elements (note that GO/GI programs only have a subset of these):

1. A list of all team members, together with their roles (e.g., PI, Co-I, collaborator).
2. Brief descriptions of the scientific and technical expertise each team member brings, emphasizing the experiences necessary to be successful in executing the proposed work.
3. A discussion of the contribution that each team member will make to the proposed investigation.
4. A discussion of specific resources that are required to perform the proposed investigation.
5. A summary of work effort.
6. Bio sketches, if required by the solicitation.
7. Statements of Current and Pending support, if required by the solicitation.
8. Letters of resource support, if required by the solicitation.

The “[Guidelines for Anonymous Proposals](#)” document includes an example.



How Will My Proposal Be Reviewed?



Flow of the Review



The anonymized scientific review takes place. All assessments are complete, grades finalized, and panel summaries written.



The “Expertise and Resources – Not Anonymized” document is distributed to panelists for a subset of proposals (typically the top third). Panelists assess the team and resource capability to execute the proposed investigation.




Monitoring the Panel Discussion

- NASA-appointed Levelers are present in every panel in addition to panel support staff
- Their role is to ensure that the panel discussions focus on scientific merit. Unlike the chairs, they are not listening for issues pertaining to the science, rather they are focused on the discussion itself.
- If the discussion veers to comments on the proposing team, their past work, their validity, or their identities, the leveler's job is to refocus that discussion.
- Levelers have the authority to stop the discussion on a proposal.

Discussion of “Expertise and Resources - Not Anonymized” Document

1. Scientific evaluation of the all proposals is completed.
2. The “Expertise and Resources – Not Anonymized” document is distributed to panelists for a subset of proposals (typically the top third, according to the distribution of assigned grades and the projected selection rates.) PMEFs are also distributed to the review panels, if the program requires them.
3. Panelists assess team capability to execute proposed investigation using a three-point scale, e.g.:

Vote	Overall Team and Resources Capability	
	Uniquely qualified	The E&R document demonstrates that the team is exceptionally capable of executing the proposed work, <u>and has singular access to resources upon which the success of the investigation critically depends.</u> Appropriate allocations of team members’ time are included. A comment from the panel must be written that clearly justifies the choice of this grade.
	Qualified	The team has appropriate and complete expertise to perform the work, and appropriate allocations of their time are included. Any facilities, equipment and other resources needed are available to execute the work. <u>NASA sets the expectation that the vast majority of proposals will fall into this category.</u>
	Not qualified	The E&R document demonstrates severe deficiencies in the necessary expertise and/or resources to execute the proposed investigation. A comment from the panel must be written that clearly justifies the choice of this grade.



Final Remarks





Return without Review for Unanonymized Proposals

NASA understands that dual-anonymous peer review represents a major shift in the evaluation of proposals, and as such there may be occasional slips in writing anonymized proposals. However, NASA reserves the right to return without review proposals that are particularly egregious in terms of the identification of the proposing team.

NASA further acknowledges that some proposed work may be so specialized that, despite attempts to anonymize the proposal, the identities of the Principal Investigator and team members are readily discernable. As long as the guidelines are followed, NASA will not return these proposals without review.

NASA



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