National Aeronautics and Space Administration

Cryospheric Sciences Dual-Anonymous Peer Review for ROSES 2021

Please submit any questions you have (or upvote existing questions) during this presentation via the following link: https://arc.cnf.io/

Click on "Cryospheric Sciences ROSES 2021 Solicitation & DAPR Overview Town Hall"

A.15 Cryospheric Sciences

- This opportunity requests proposals that use remote sensing data to provide new insights into the stability of ice shelves of Greenland and Antarctica in a changing climate, their governing processes and inter-relationships, specifically:
  - a) surface processes at the ice shelves (incl. surface mass balance, surface hydrology, melt water routing)
  - b) ice shelf thermodynamic and mechanical behavior (incl. hydrofracturing, marine ice cliff instability)
  - c) ice shelf - ocean interactions (incl. assumption on hydrostatic equilibrium, bottom melt, roughness and bottom crevassing, impact of and interactions with the adjacent sea ice)

A.15 Cryospheric Sciences

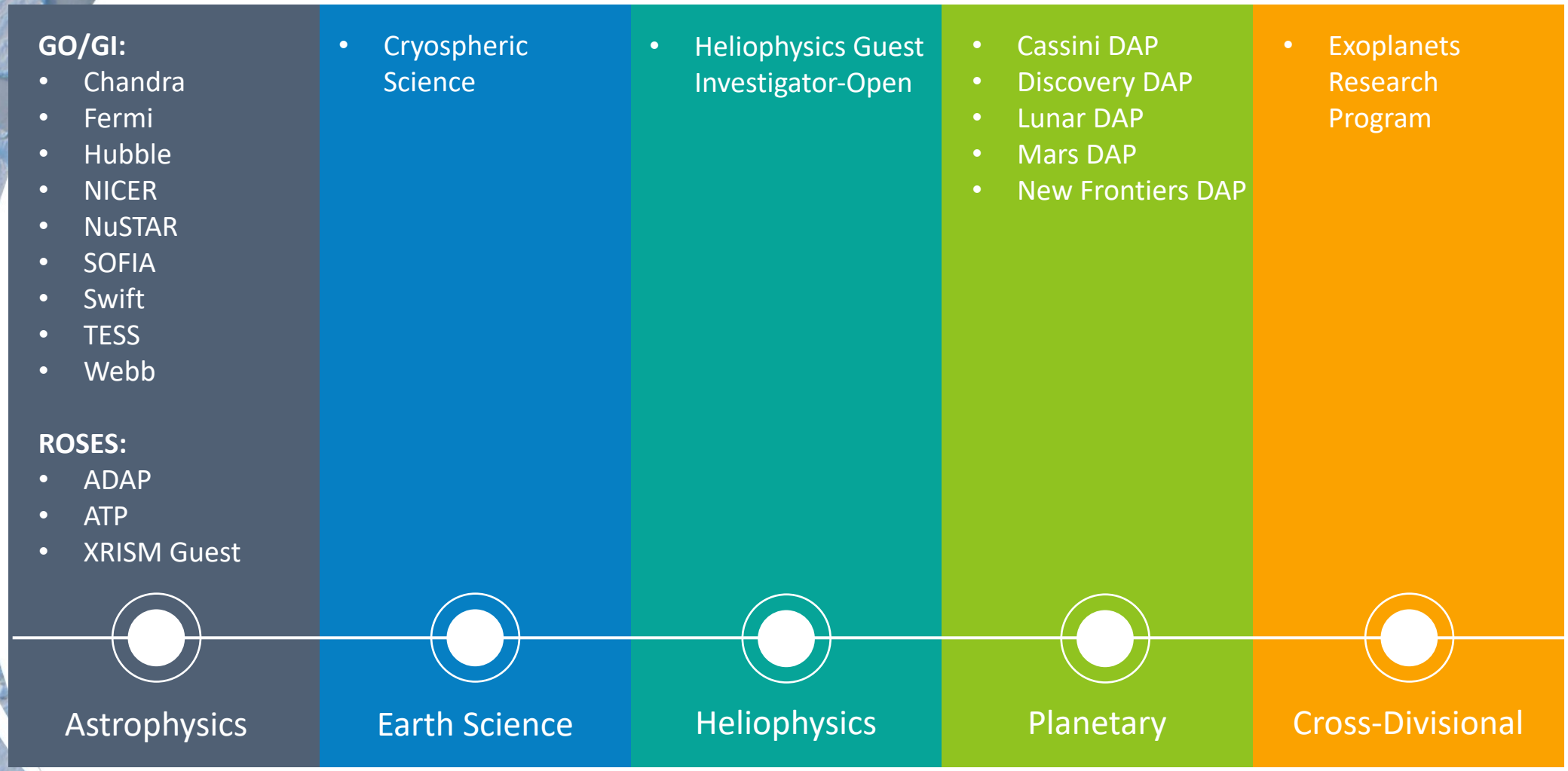
- Because of the focus on a more holistic assessment of ice shelf stability, proposals that address more than one process will be given higher priority.
- It is envisioned that annual half-day (virtual) workshops will be held to foster and optimize interaction and collaboration between PIs and achieve tangible assessments on the relative importance of the various processes and their inter-relationships.
  - PIs working on ice shelves through other opportunities will be encouraged to attend as well.
- While it is prudent and reasonable to test hypotheses and limit data analyses for selected ice shelves, proposals are encouraged to attempt ice sheet wide assessments where feasible.

Overview

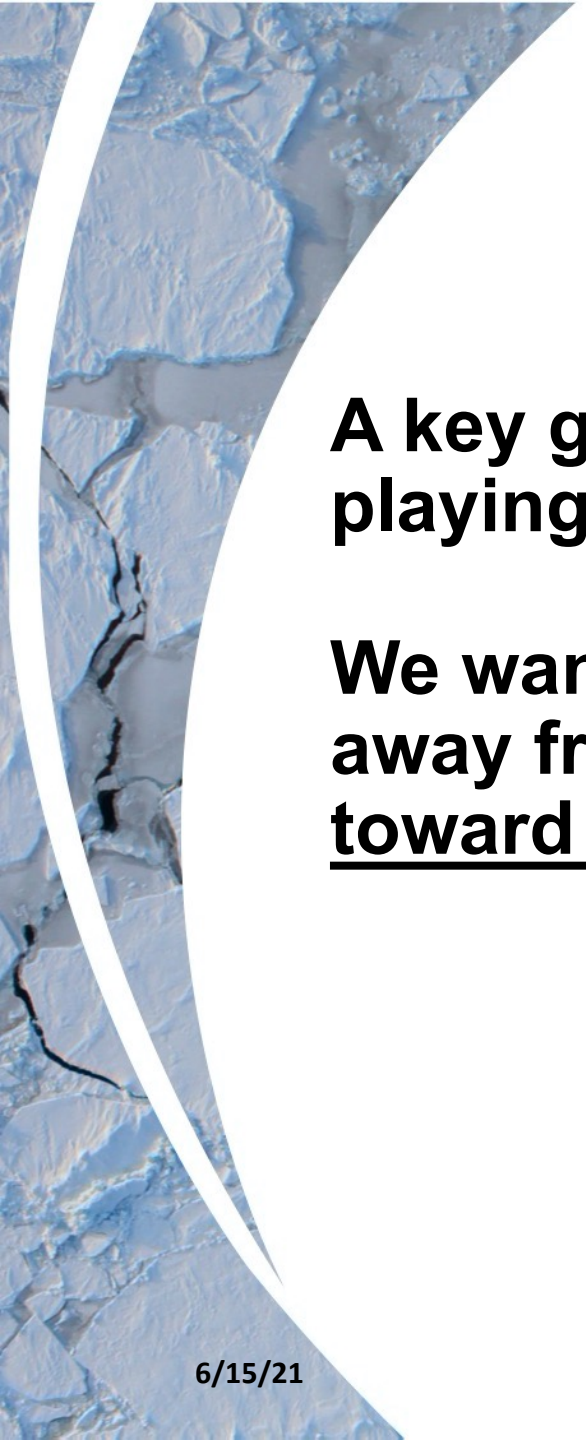
1. Which programs are converting to dual-anonymous peer review (DAPR)?
2. Motivation for Dual-Anonymous Peer Review in SMD
3. What is Dual-Anonymous Peer Review?
4. How do I make my proposal compliant?
5. How is my proposal going to be reviewed?

Which NASA SMD Programs are Converting to DAPR?

2021 Dual-Anonymous Programs

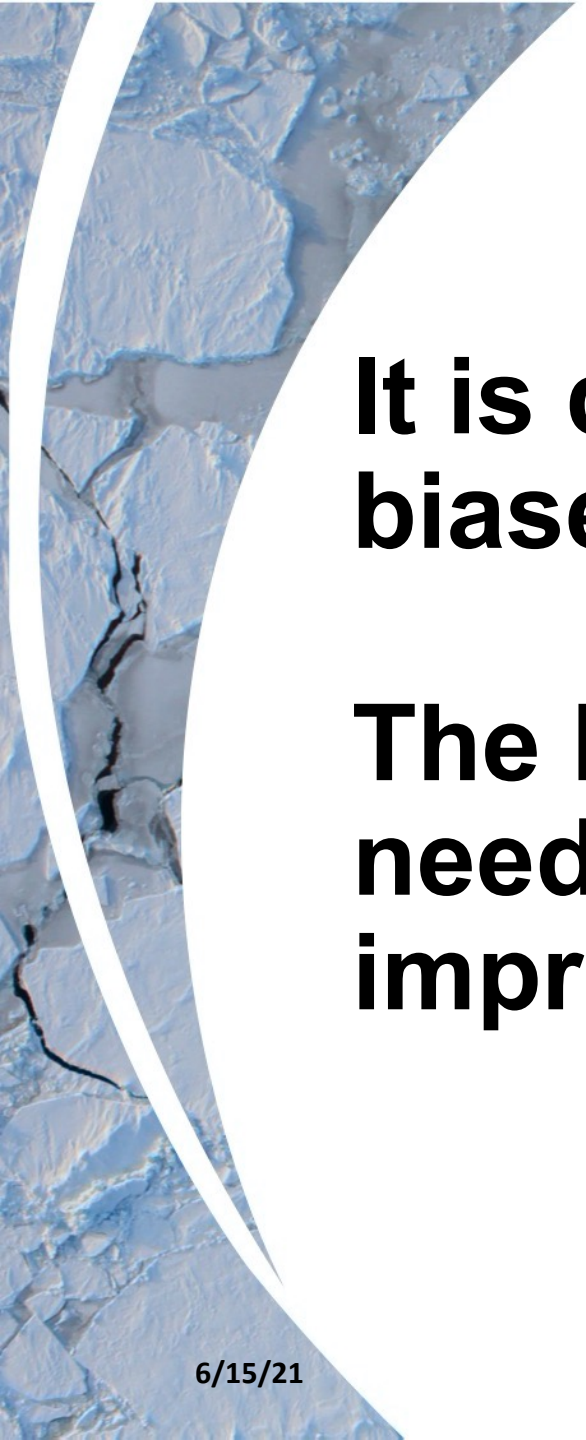


Motivation



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

We want to create a change in the tenor of discussions, away from the individuals on the proposing team, and toward the proposed science.



It is difficult to completely interrupt biases through training alone.

The DAPR process does not remove the need for structural changes in order to improve DEI.

Double-Blind, aka Dual-Anonymous Review


BUSINESS INSIDER CAREERS

Why companies are using 'blind auditions' to hire top talent

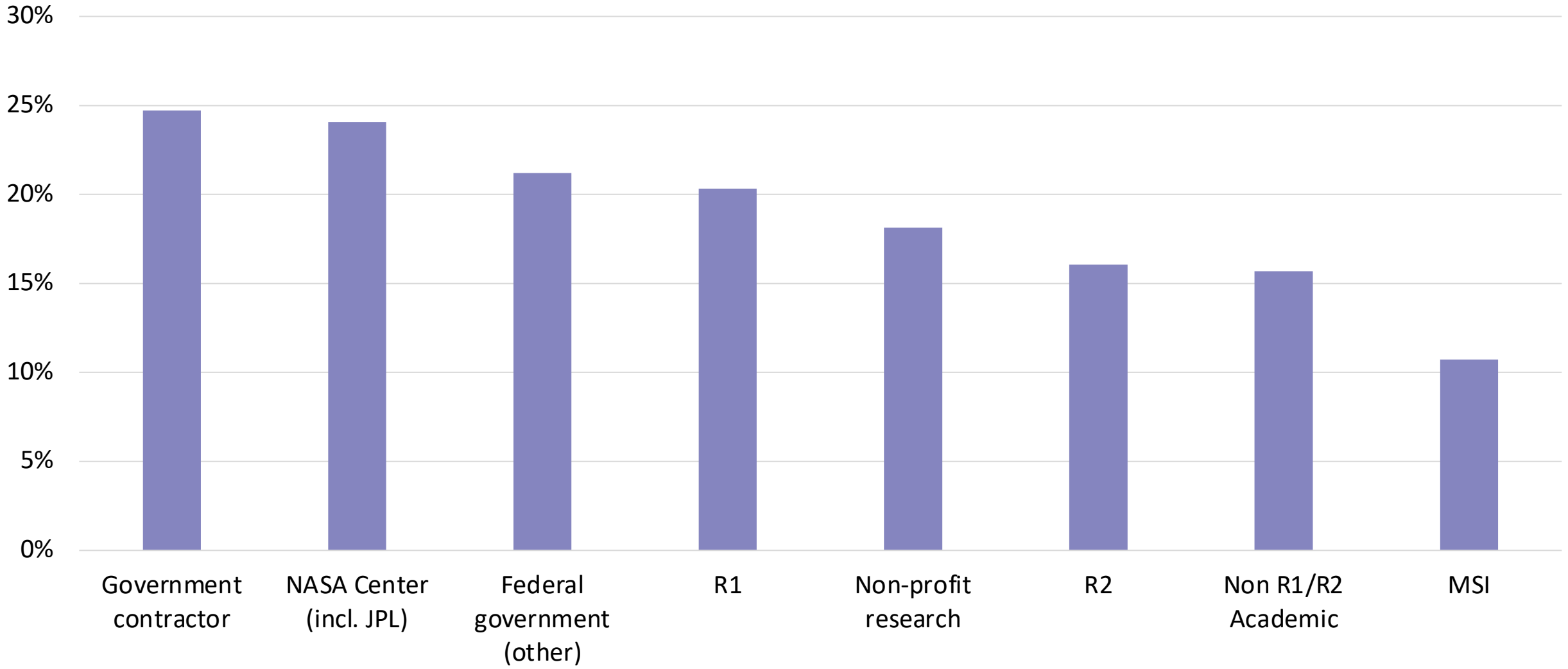
Jacquelyn Smith
May 31, 2015, 8:00 AM 14,649 4

FACEBOOK LINKEDIN TWITTER EMAIL PRINT

"In 1970, the top five orchestras in the U.S. had fewer than 5% women. Today, some… are well into the 30s."

Behavioral Ecology switched to double-blind review, resulting in a significant increase in female first-authored publications

Success Rate by Institution Type for ROSES Programs Prior to 2020 SMD Pilot (ADAP + Earth USPI + Habitable Worlds + Heliophysics Guest Investigator)



Making Peer Review Better

- NASA's Science Mission Directorate (SMD) is strongly committed to ensuring that the review of proposals is performed in an equitable and fair manner.
- To this end and motivated by a successful study conducted for the Hubble Space Telescope, **SMD is adopting dual-anonymous peer review (DAPR) for numerous programs**.
- Under this system, not only are proposers unaware of the identity of the members on the review panel, but the reviewers do not have explicit knowledge of the identities of the proposing team during the scientific evaluation of the proposal.

What is Dual-Anonymous Peer Review (DAPR)?

In dual-anonymous peer review, not only are proposers unaware of the identity of the members on the review panel, but the reviewers do not have explicit knowledge of the identities of the proposing team during the scientific evaluation of the proposal.

The primary intent of dual-anonymous peer review is to eliminate “the team” as a topic during the scientific evaluation of a proposal, not to make it absolutely impossible to guess who might be on that team.

This creates a shift in the tenor of discussions, away from the individuals, and towards a discussion of the scientific merit of a proposal.

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

Proposers submit (1) an anonymized proposal, and (2) a not-anonymized “Expertise and Resource” 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 <u>will</u> form part of the evaluation.

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

Submission of Anonymized Proposals

- Exclude names and affiliations of the proposing team, including in figures and references to personal websites.
- **Do not** claim ownership of past work, e.g., “My previously funded work …” or “our analyses shown in Baker et al. 2012 …”
- Cite references in the passive third person, e.g., “Prior analysis [1] indicates that …”
- **Do** describe the work proposed, e.g., “We propose to do the following …” or “We will measure the effects of …”
- Include a separate, non-anonymized “Expertise and Resources” document.

How Do I Reference Unpublished Works or Proprietary Results?

- It may be occasionally important to cite exclusive access datasets, non-public software, unpublished data, or findings that have yet to be presented in public before but are not citable.
- Each of these may reveal (or strongly imply) the investigators on the proposal.
- In these instances, proposers must use language such as “obtained in private communication” or “from private communication” when referring to such potentially identifying work.
- Recall that the goal of DAPR 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. An anonymized proposal does not prohibit stating this fact in the Scientific/Technical/Management section of the proposal; however, the proposal must be written in a way that does not identify the team member. 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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How is the capability of the team to execute the investigation accounted for?

Expertise & Resources Non-Anonymized Document

- List of team members
- Descriptions of expertise
- Specific contributions from members
- Specialized resources (e.g., field sites)
- Summary of work effort
- Biographical sketches
- Current and pending support
- Letters of resource support

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

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.

Science Review (Panel Discussion)

- Each proposal will be assessed based upon:
  - Scientific merit
  - Relevance to the solicitation/program
  - Cost

Discussion of "Expertise and Resources - Not Anonymized" Document (After Science Review is Completed)

1. 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.)
2. Panelists assess team capability to execute proposed investigation using a three-point scale, i.e.,:

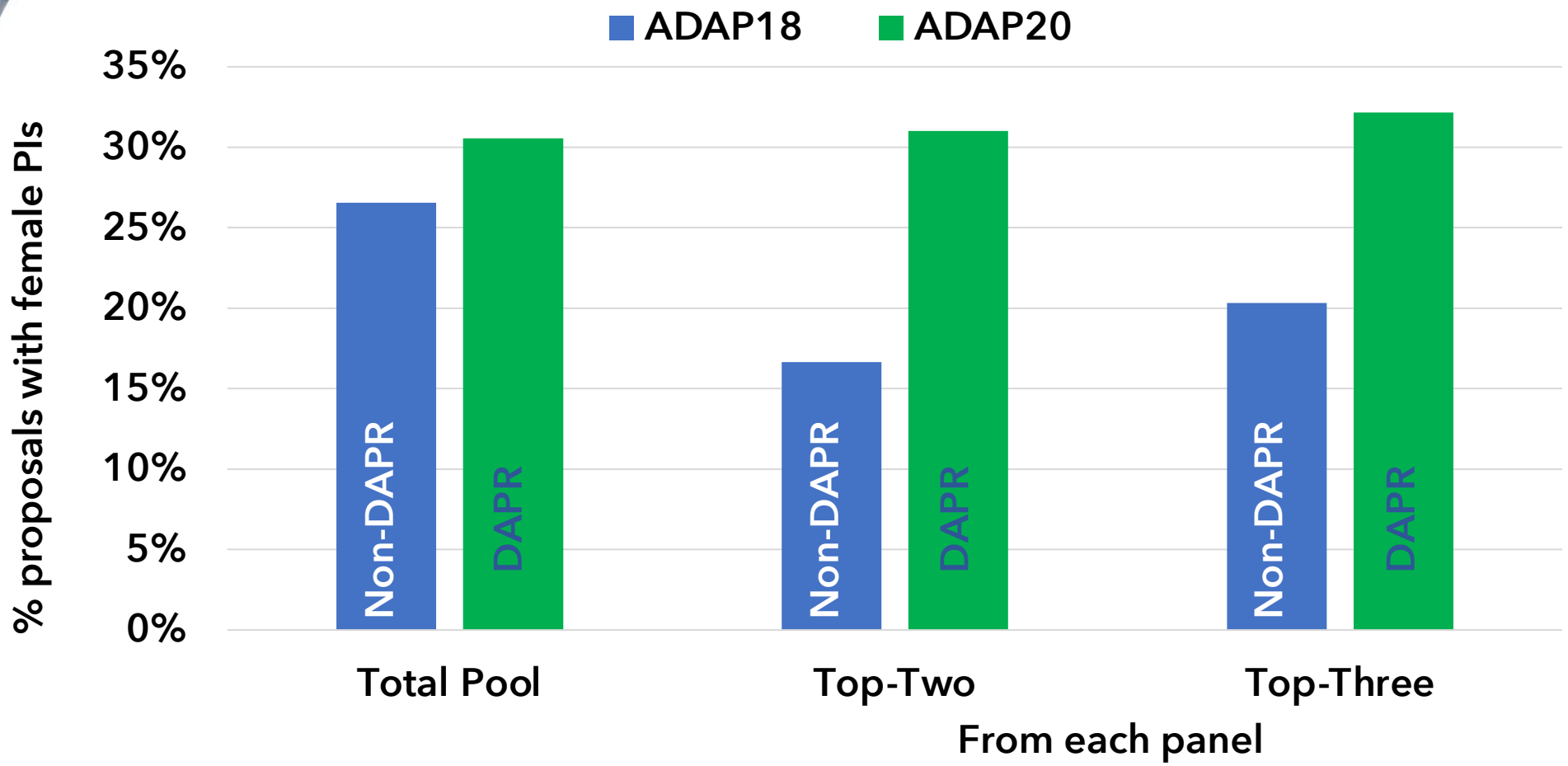
Vote	Overall Team and Resources Capability	
	Uniquely qualified	The E&R document demonstrates that the team is exceptionally capable of executing the proposed work, and has singular access to resources upon which the success of the investigation critically depends. Appropriate allocations of team members' 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. NASA sets the expectation that the vast majority of proposals will fall into this category.
	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.

Success Metrics and DAPR Experience So Far

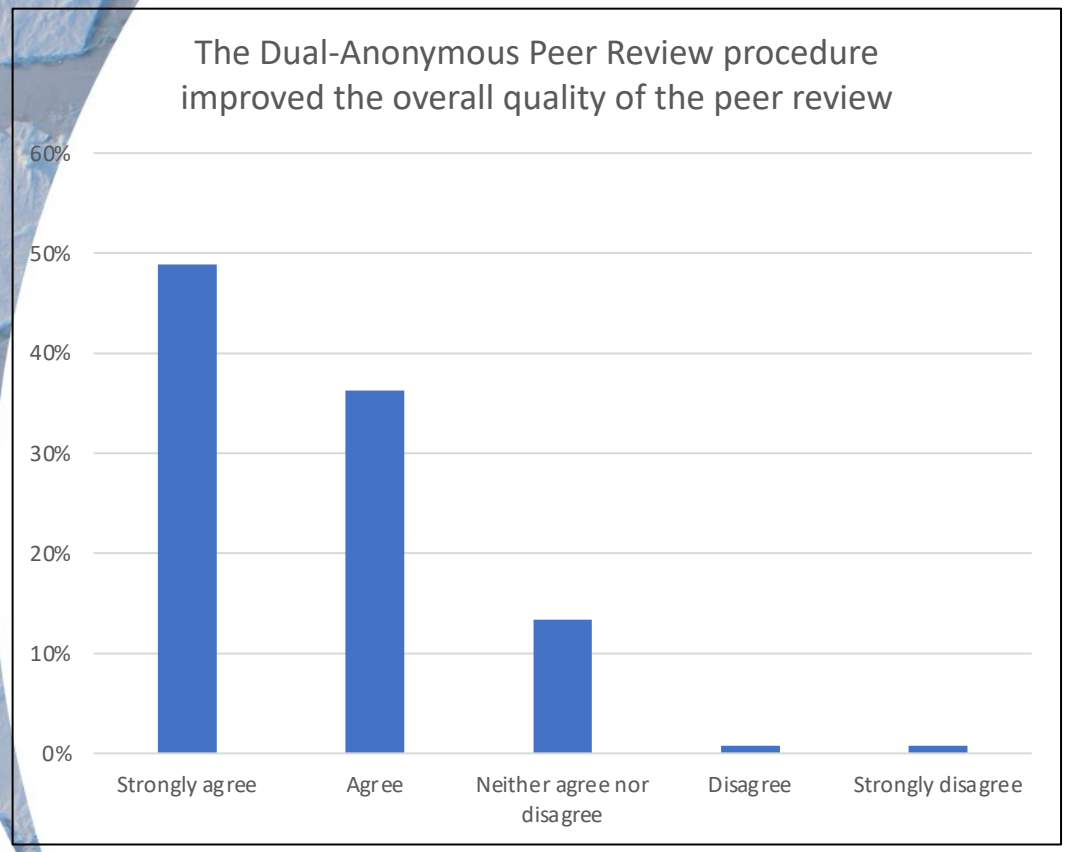
Selection Statistics from Recent Cryo Solicitations

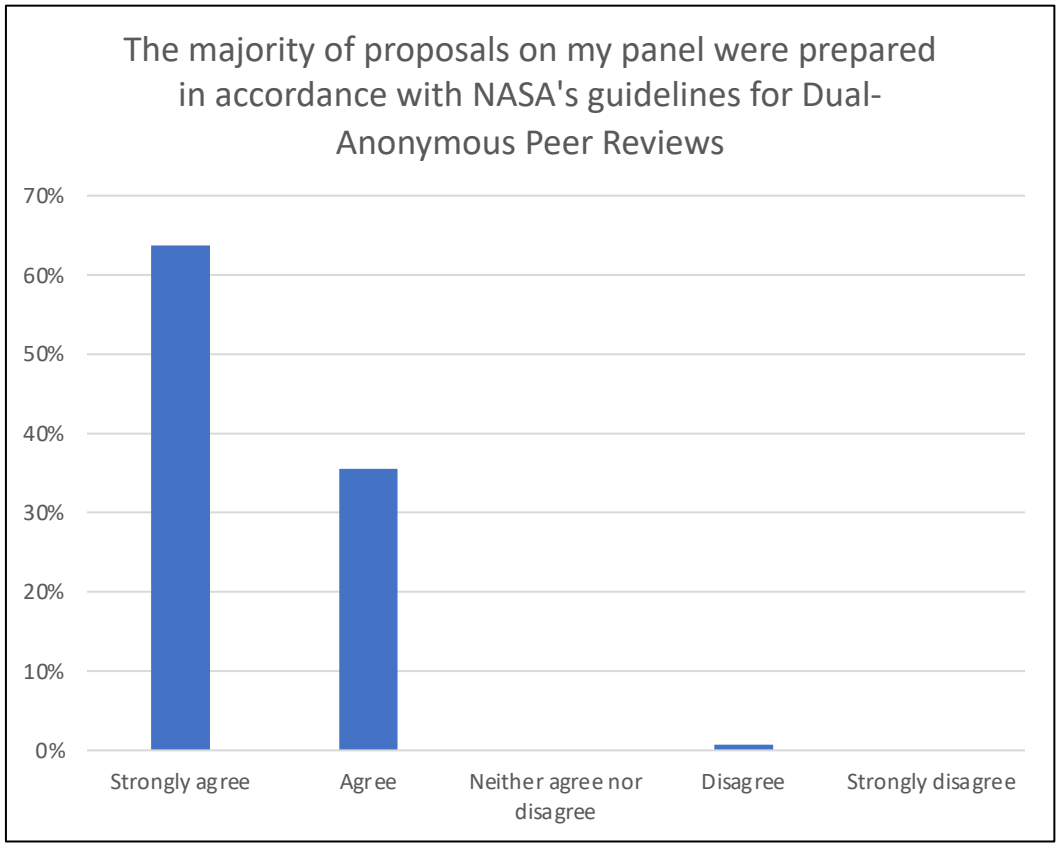
- ROSES 2019
  - Studies with ICESat-2
    - 96 proposals submitted (68 M, 28 F)
    - 24 proposals selected (15 M, 9 F; 22.1% M, 32.1% F)
- ROSES 2020
  - Cryospheric Sciences
    - 80 proposals submitted (57 M, 23 F)
    - 18 proposals selected (14 M, 4 F; 24.6% M, 17.4% F)
  - Studies with ICESat-2
    - 24 proposals submitted (17 M, 7 F)
    - 10 proposals selected (6 M, 4 F; 35.3% M, 57.1% F)

Recent Astrophysics Data Analysis Program (ADAP) Results



Reviewer Surveys





DAPR Experience So Far in Astrophysics

- Only three egregious violations of anonymization guidelines, which resulted in the proposal being returned without review.
- Common (minor) pitfalls we see in proposals about 10-15% of the time:
  1. Claiming ownership of past work (e.g., "our previous analysis", "PI has an established record").
  2. Including metadata (e.g., PDF bookmarks) that reveal the name of the PI.
  3. Recycling proposals prepared prior to dual-anonymous peer review and not carefully anonymizing the text.
  4. Providing the names of investigators on the contents page.
  5. Providing the origin of travel for professional travel (e.g., conferences).
  6. Mentioning the institution name in the Budget Narrative.
  7. Including the PI or co-I names in budget tables.

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.

Questions?

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