Distributed peer review and proposal preparation

Dr. Luis Henry Quiroga-Nunez (NRAO/UNM)
Dr. David Rebolledo (NRAO/JAO)
*based on NAASC presentation
Abril 7, 2022

Goal of presentation

What to expect from distributed peer review

Guidelines to reviewing proposals

Best practices for distributed peer review

Basics of distributed peer review

Every* proposal team nominates one person to be a reviewer

Proposal Handling Team (PHT) assigns 10 proposals to the reviewer

Reviewer ranks and write comments for each proposal

* Excluding Large Programs

Reviewer timeline for Cycle 9

April 21
Proposal deadline

1) Proposal PI designates the reviewer in the Observing Tool (OT)

April 26
Expertise & conflicts

1) Reviewer specifies scientific expertise in User Profile
2) Reviewer provides list of conflicts of interest in User Profile

May 4 - June 1
Stage 1

1) Declare any conflicts of interest in assigned proposals by May 11
2) Complete reviews by June 1 @ 15 UT **(MANDATORY!)**

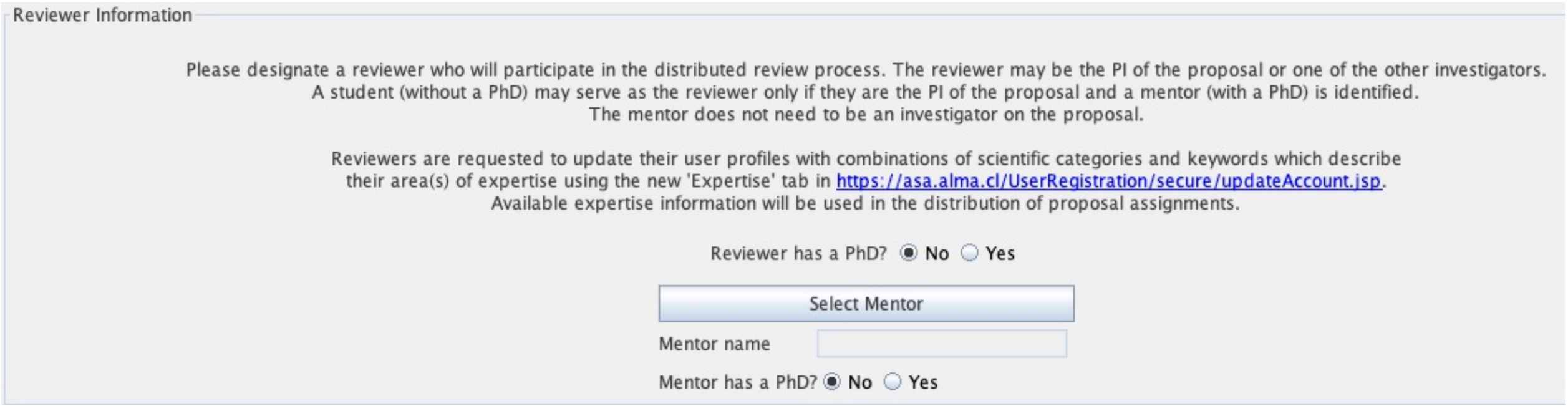
June 2 - 16
Stage 2

1) Read reviews from other reviewers (optional)
2) Modify your ranks and comments as needed (optional)

PI designates the reviewer

April 21
Proposal deadline

1) Proposal PI designates the reviewer in the Observing Tool (OT)

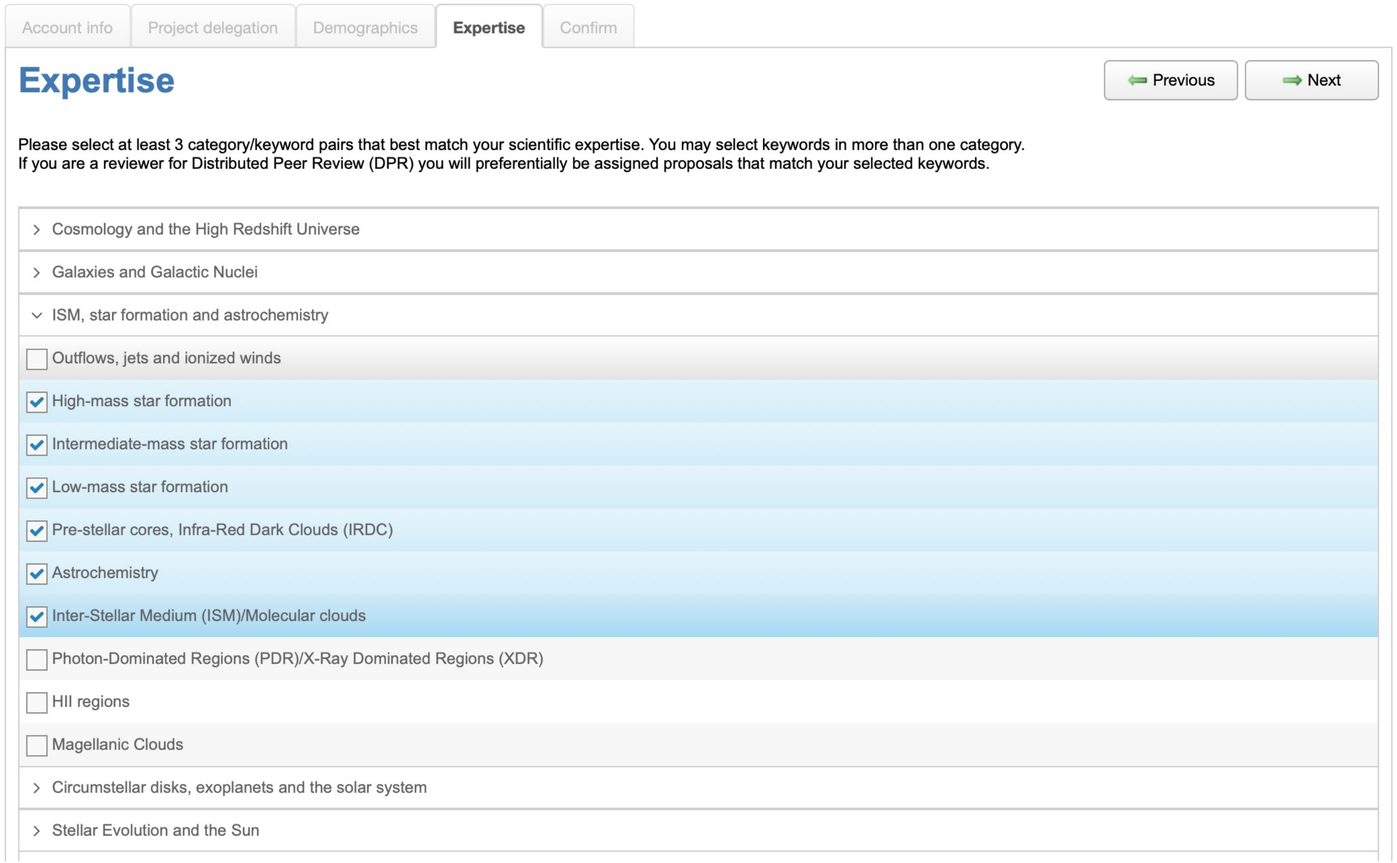


Student PIs can be reviewers, but need to specify a mentor who will assist in the review.

Reviewer expertise

April 26
Expertise & conflicts

1) Reviewer specifies scientific expertise in User Profile
2) Reviewer provides list of conflicts of interest in User Profile



1) Log in to the ALMA Science Portal
2) Edit your User Profile
3) Go to the **Expertise** tab
4) Select keywords that match your scientific expertise
5) Go to the **Confirm** tab to save

How the PHT uses keywords to assign proposals

Priority #1 Assign proposals with the same keyword as the reviewer's selected keywords.

Priority #2 Assign proposals in the same scientific category as the reviewer's expertise.

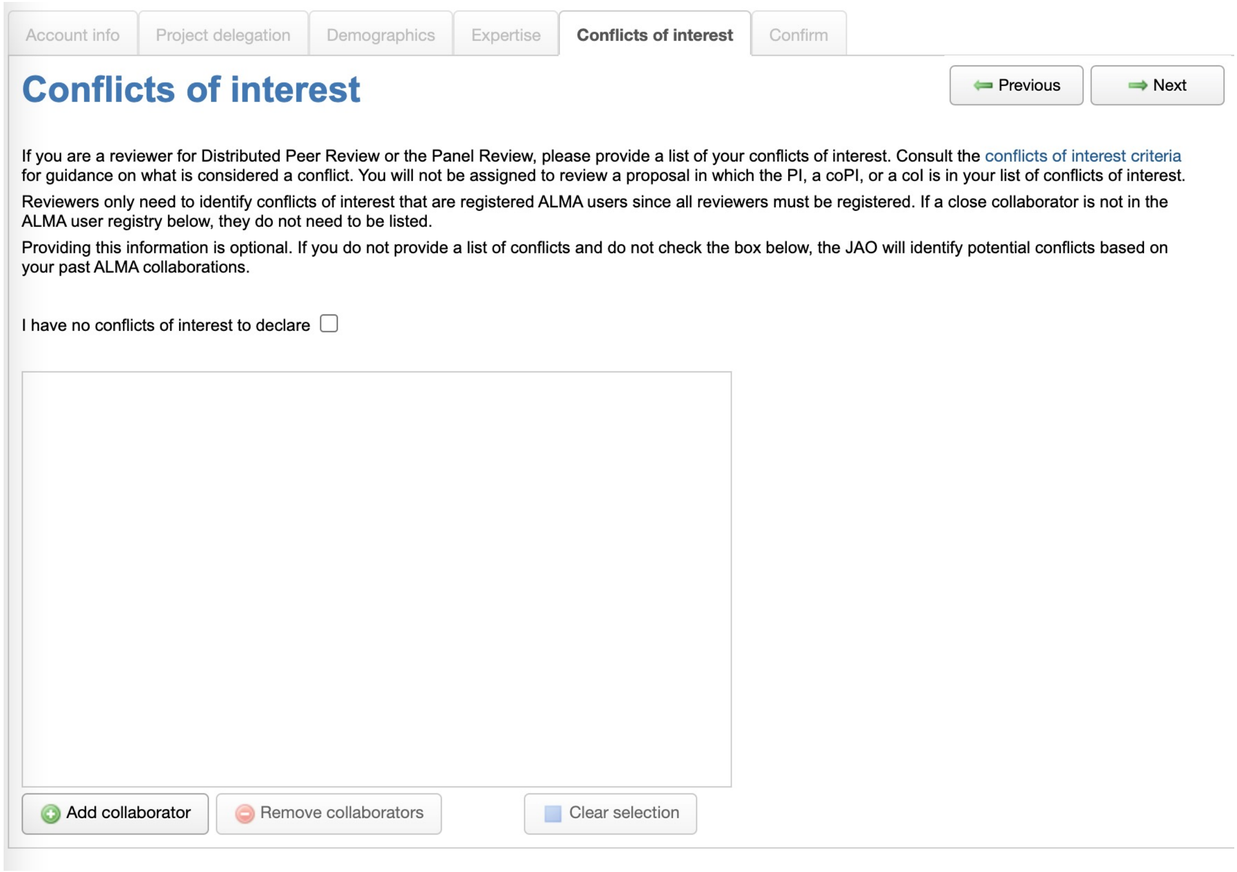
Priority #3 Assign proposals in other scientific categories.

If a reviewer does not specify their expertise, the keywords of their proposal will be used.

Reviewers can specify their conflicts of interest

April 26
Expertise & conflicts

1) Reviewer specifies scientific expertise in User Profile
2) Reviewer provides list of conflicts of interest in User Profile



1) Log in to the ALMA Science Portal
2) Edit your User Profile
3) Go to the **Conflicts of Interest** tab
4) Identify ALMA users for which you have a conflict
5) Go to the **Confirm** tab to save

What is considered a conflict of interest?

- In general, a reviewer has a major conflict of interest when their personal or work interests would benefit if the proposal under review is accepted or rejected.

- Close collaborators, which are defined as a substantial collaboration on three or more papers within the past three years or an active, substantial collaboration on a current project. Co-membership in a large team on its own does not constitute a conflict of interest.
- Students and postdocs under supervision of the reviewer within the past three years
- A reviewer's supervisor (for student and postdoc reviewers)
- Close personal ties (e.g., family member, partner) that are ALMA users
- Any other reason in which a reviewer believes a major conflict of interest exists

If a reviewer does not provide their conflicts, the PHT will determine conflicts based on the reviewer's proposal history for the past three cycles.

How does the PHT use the conflicts of interest?

The PHT will not assign reviewers a proposal in which a PI, co-PI, or co-I is in their list of conflicts of interest.

Reviewers can also declare conflicts of interest when they receive their proposal assignments.

Stage 1: Review assigned proposals

May 4 - June 1
Stage 1

1) Declare any conflicts of interest in assigned proposals by May 11
2) Complete reviews by June 1 @ 15 UT **(MANDATORY!)**

Declare any additional conflicts in your assigned proposals

- for example: observing the same object(s) with the same goals

If you identify a conflict after you submitted your conflicts, contact the PHT to be assigned another proposal.

Stage 1: Review assigned proposals

May 4 - June 1
Stage 1

1) Declare any conflicts of interest in assigned proposals by May 11
2) Complete reviews by June 1 @ 15 UT **(MANDATORY!)**

- Rank the proposals from 1 (strongest) to 10 (weakest) based on scientific merit.

- Write comments that summarize the strengths and weaknesses of the proposal
- Comments will be sent to the PI verbatim.

- **Reviewer's proposal will be canceled if the reviews are not submitted on time!**
- Extensions will not be granted since Stage 2 starts on June 2.

The reviewer can be changed after the proposal deadline in exceptional circumstances by having the proposal PI contact the PHT. The Stage 1 deadline though will remain the same.

Stage 2: Finalize the ranks and reviews

June 2 - 16
Stage 2

1) Read reviews from other reviewers (optional)
2) Modify your ranks and comments as needed (optional)

Read comments from the other reviewers to see if you overlooked any critical strengths or weaknesses.

Update your ranks and comments as needed.

Stage 2 is optional. If a reviewer does not complete Stage 2, the Stage 1 ranks/comments are considered final.

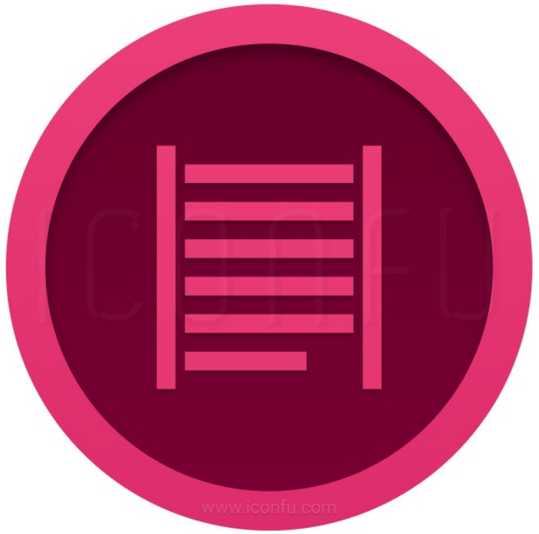
Reviewing proposals

- Review criteria
- Tips for reviewing proposals
- Writing comments for PIs

Extensive guidance available on the ALMA Science Portal (Proposing => ALMA Proposal Review).

Proposal components

Abstract



Scientific Justification

Technical Justification

All three components are important and should be read by the reviewers.

Review criteria

Overall scientific merit

- Does the proposal clearly indicate which important, outstanding questions will be addressed?
- Will the proposed observations have a high scientific impact on this particular field and address the specific science goals of the proposal?
- Does the proposal clearly describe how the data will be analyzed in order to achieve the science goals?

Suitability of the observations to achieve the scientific goals

- Is the choice of target (or targets) clearly described and well justified?
- Are the requested signal-to-noise ratio, angular resolution, largest angular scale, and spectral setup sufficient to achieve the science goals?
- Does the proposal justify why new observations are needed to achieve the goals?

Technical Justification

ALMA Observing Tool

Observing Tool performs (most) technical validations

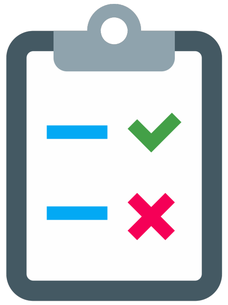
reviewers can assume requested sensitivity, angular resolution, largest angular scale, and correlator setup are valid and can be achieved technically.

Reviewers should evaluate if setup is sufficient to achieve science goals.

- Sensitivity
- Correlator setup
- Largest angular scale
- Angular resolution

The proposal is responsible for clearly justifying the setup with references as appropriate.

Best practices for writing reviews



- Summarize both strengths and weaknesses
- Take care to ensure strengths and weaknesses do not contradict each other
- Avoid giving the impression a minor weakness was the cause of a poor ranking

- A proposal review is NOT just a summary of the proposal
- While the reviewer may include a BRIEF (~ 1 sentence) summary, the bulk of the contents need to discuss the strengths and weaknesses of the proposal

Best practices for writing reviews

- Use complete sentences when writing the comments.

- Be concise
- It is not necessary to write a lengthy review, but avoid writing a single sentence

Best practices for writing reviews

- Be specific as possible when writing reviews
- Avoid generic statements that could apply to most proposals

- Do not ask questions in your review
- Questions usually indicate a proposal weakness - state the weakness directly

Best practices for writing reviews

- Be professional and constructive
- Do not use sarcasm or any insulting language
- Critique the proposal and not the PI or the proposal team

- Be aware of unconscious bias
- Keep your review factual and objective as possible

Example review

Jets and outflows have been shown to be a common phenomenon during the protostellar phase, but details about the exact mechanism in the type of source proposed here are not fully known. The proposed target is very well justified and given its proximity, will provide excellent spatial resolution to study the structure of the outflow. The observations and analysis described will shed light on the physics of jet launching and accretion, leading to a better understanding of the evolution of this type of source.

However, the proposal did not adequately explain how the proposed observations will test whether the observed phenomenon is a result of the particular outflow launching mechanism or other scenarios discussed in the proposal. Also, the proposal did not adequately explain why the requested number of molecular transitions are needed for the proposed excitation analysis, compared with the pros and cons of instead observing fewer or different transitions.

Brief summary of proposal

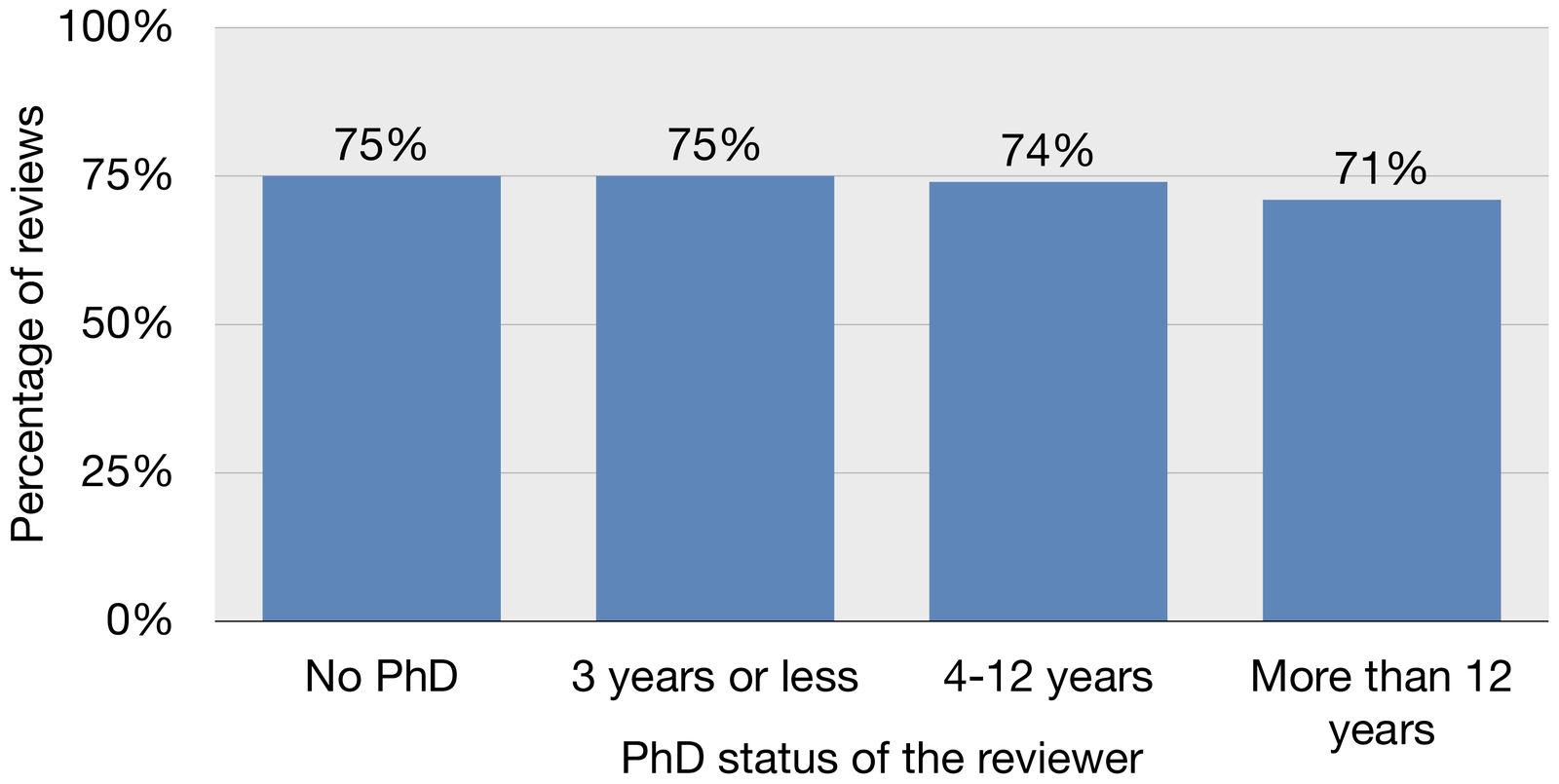
Strengths specific to the proposal

Weaknesses specific to the proposal

Comments should indicate the strengths/weaknesses of the proposal, not the PI or the proposal team.

Everyone can write helpful reviews!

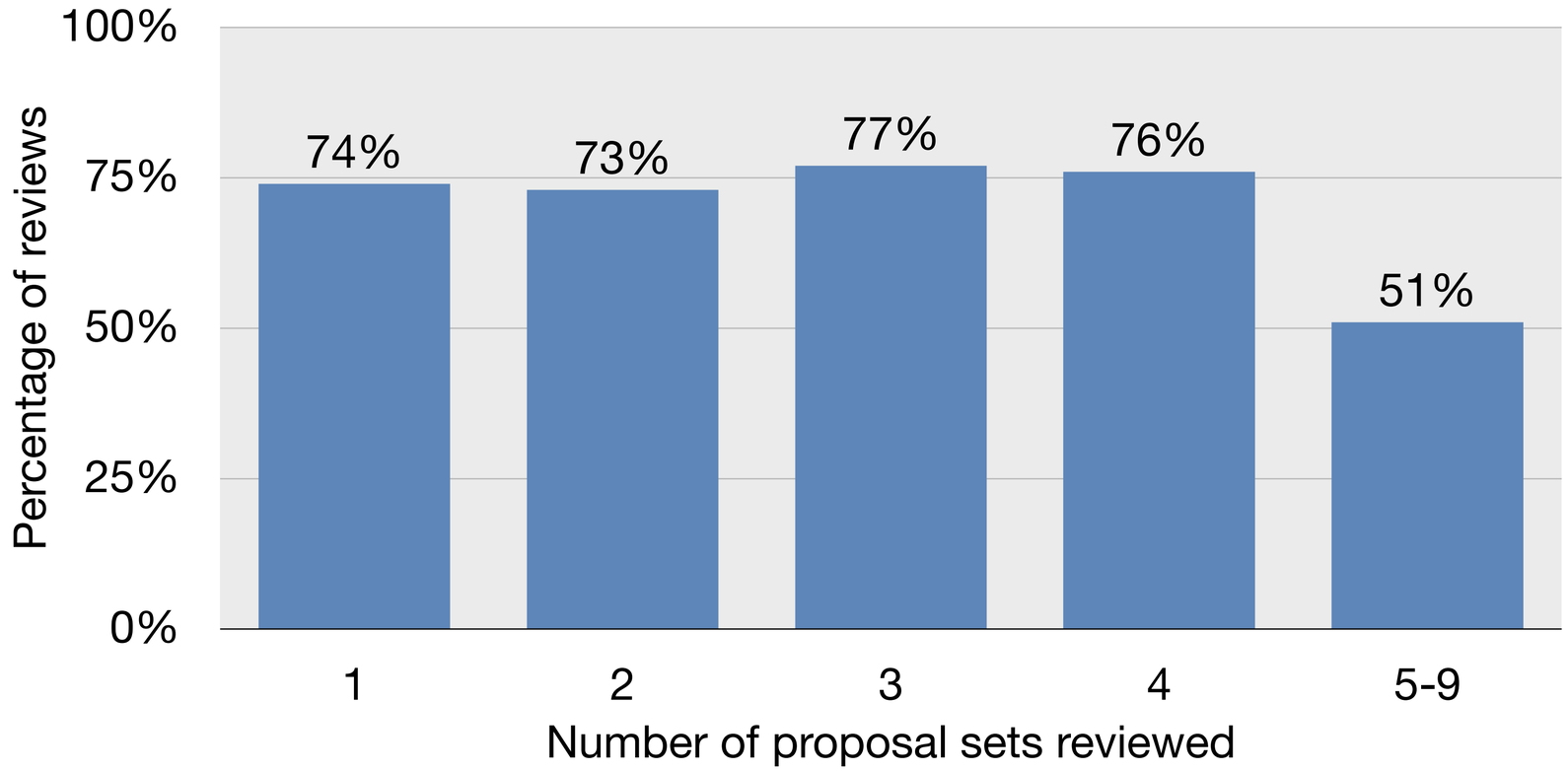
Helpfulness of a review vs. career status of the reviewer in Cycle 8



Students and young postdocs write just as helpful reviews as more experienced astronomers.

How many proposals set can I review?

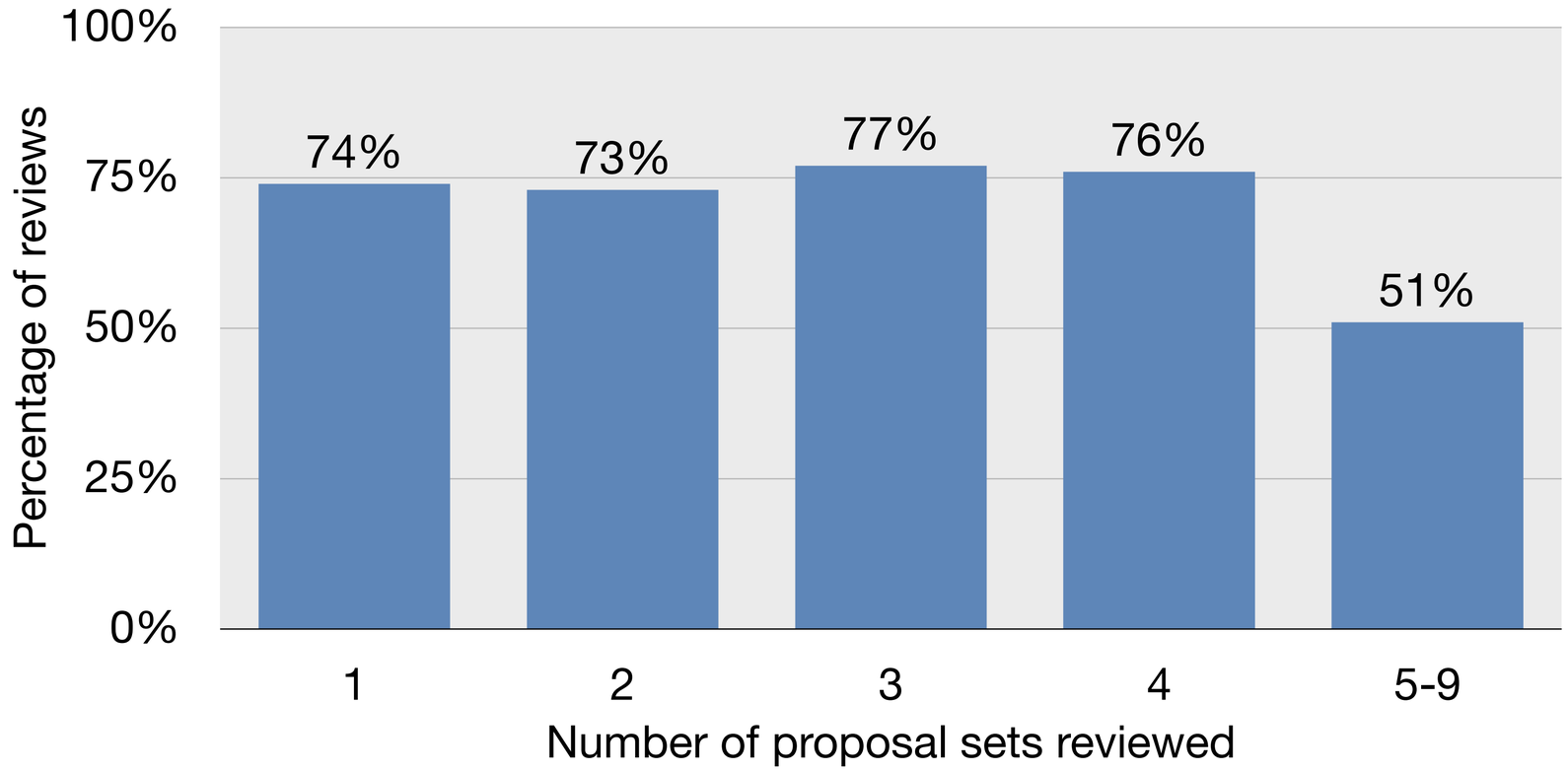
Helpfulness of a review vs. number of proposals sets reviewed in Cycle 8



The PHT recommends to review 3 Proposal Sets or less to keep workload manageable. PIs can delegate their review assignments to a coI in the Observing Tool.

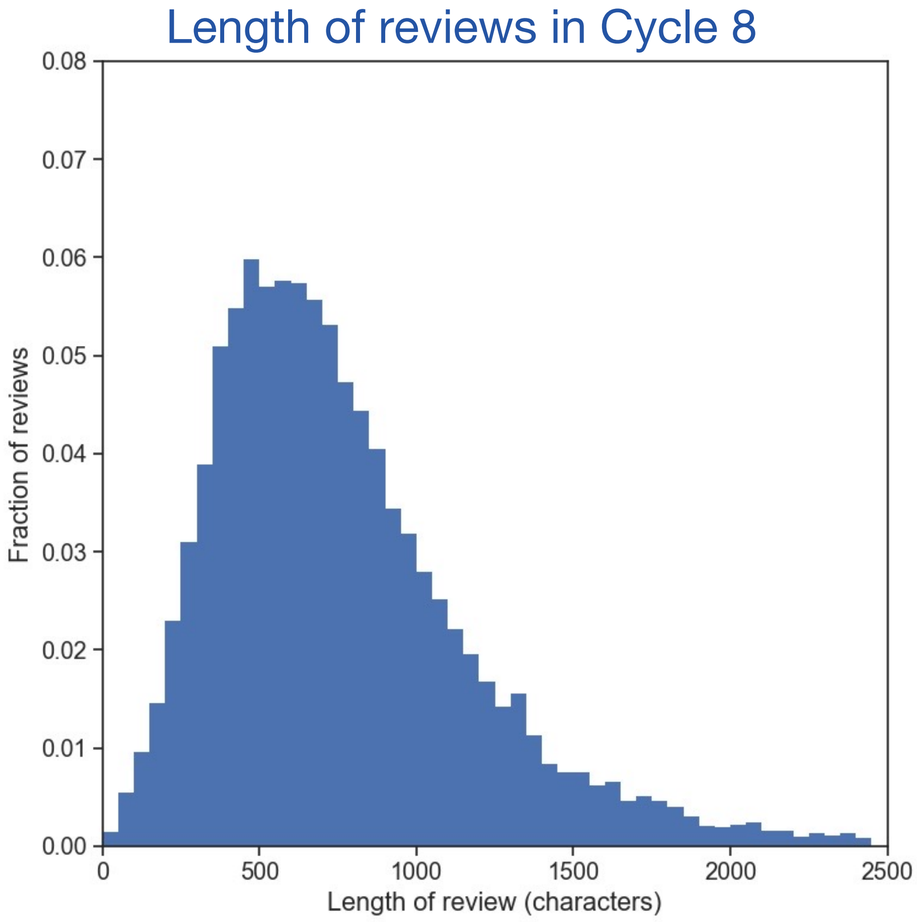
How many proposals set can I review?

Helpfulness of a review vs. number of proposals sets reviewed in Cycle 8



You should plan to spend about 1 working day to review one proposal set (= 10 proposals).

Length of review



- Typical length of a review is ~700 characters, or about 6 sentences.

You should plan to spend about 1-2 working days to review one proposal set (= 10 proposals).

Summary

ALMA distributed peer review

- Actions to take before and right after the proposal deadline:
  - Designate a reviewer
  - Reviewers update their profile information
- Stage 1 --> Rank and write comments --> Mandatory
- Stage 2 --> Update ranks and comments Optional

The work of the reviewer

- Reviewers take into account all componentes of the proposal, looking the scientific merit and suitability of the observation

Lessons from Cycle 8

- Everyone can write helpful reviews
- Workload matters -->
  - Reviewer should expect to spend 1-2 work days per proposal set
  - No more than 3 Proposal Sets

Summary

More information

https://almascience.org/proposing/alma-proposal-review

- Dual-anonymous guidelines
- Description of the distributed peer review
- Detailed guidelines for the reviewers
- FAQ

Thank you!

Questions?