ALMA Proposal Review

ALMA Cycle 13 Proposal Preparation Meeting

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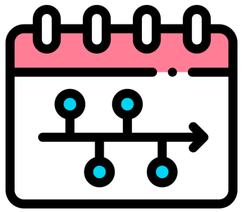
Goal of presentation

Basics of distributed peer review



Timeline

Guidelines for reviewers

Basics of distributed peer review

At proposal submission

One member of each proposer team* commits to participate in the review process.

The work

Each reviewer reviews 10 proposals (Proposal Set) for each submitted proposal, with a maximum of **THREE** Proposal Sets.

Review process

- Stage 1
  - Reviewers identify conflicts of interest
  - Reviewers rank the proposals from 1 to 10 (strongest to weakest) and provide a comment
- Stage 2
  - Access to anonymized reviews
  - Ranks and comments can be modified

* Excluding Large Programs

Proposal assignment

- Each reviewer is assigned a Proposal Set for each submitted proposal on which they were selected as reviewer (up to three).
- Assignments are determined based on the reviewer expertise, inferred from their proposal history, using machine-learning algorithms (see Carpenter et al. 2025), and from the expertise specified in their user preferences.
- Reviewers are informed via email when the Proposal Sets are available to start the review process. It is **very important** that reviewers keep the information in their user preferences updated.

Carpenter, Corvillón, & Shah (2025)

Stage 1: Proposal Review

6 May - 3 June

1. **Declare conflicts of interest**
2. **Read the proposal**
   Coversheet + Scientific Justification + Technical Justification
3. **Rank 1 - 10**
   Stronger (1) to weakest (10), based solely on scientific merit
4. **Write comments**
   Comments are verbatim to the PI

Stage 1: Conflict of interest

Conflict of interest: when the personal or work interests of the reviewer would benefit if the proposal under review is accepted or rejected.

Automatically detected

- Reviewer or mentor are PI or co-I in the proposal
- The PI, one of the co-PIs, or co-Is of the proposal appears on the reviewer's or mentor's conflicts-of-interest list submitted via ALMA Science Portal
- If no list provided: PI of the proposal and reviewer or mentor have been co-PI/co-I on 3+ proposals in the past 3 cycles

Reviewer's must declare

- The reviewer or mentor is proposing similar science on the same target(s)
- The reviewer or mentor provided significant feedback to the proposal team during preparation
- Close collaborators: substantial collaboration on 3+ papers in past 3 years, or active project
- Students/postdocs currently or recently (past 3 yrs) under the reviewer or mentor supervision
- Any other circumstance where you believe a strong conflict exists

Stage 2: Learn from others!

4 June - 18 June

In distributed peer review, there is no panel discussion.
Stage 2 is the closest equivalent — a chance to read how your peers assessed the same proposals and calibrate your own judgement.

1. **Read peer reviews**
   Access anonymized comments from other reviewers in your proposal set.
2. **Update your reviews**
   If a reviewer identified a significant strength or weakness you missed, revise your rank and comments.

✦ *If a reviewer skips Stage 2, the Stage 1 ranks and reviews becomes final.*

Timeline

28 Apr — **Expertise and conflicts due**
Submit scientific expertise and conflict of interest list

06 May — **Stage 1 begins**
Proposals released to reviewers

13 May — **Declare conflicts of interest**
Flag conflicts in your assigned proposal set

03 Jun — **Stage 1 deadline**
Mandatory — no extensions · 15:00 UT

04 Jun — **Stage 2 begins**
Access peer reviews; revise ranks & comments

18 Jun — **Stage 2 deadline**
Final submissions due

Guidelines for reviewers

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

- 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?
- For Joint Proposals: Does the proposal clearly describe why observations from multiple observatories are needed?

The role of reviewers

ALMA is committed to conduct a fair, competitive, and transparent review process

Reviewers play a critical role in achieving this goal

- Ranks are essential to identify the strongest proposals
- Written reviews help proposers to refine future submissions and provide valuable input to other reviewers in Stage 2

Steps for an effective reviews

Allocate sufficient time

2-3 days per Proposal Set

Know the criteria

Familiarize with ALMA's two main evaluation criteria

Mitigate bias

Recognize and actively counter unconscious biases

Read thoroughly

Read all sections; highlight main ideas, take notes

Written reviews

Be objective, specific and constructive

Rank proposals

Ensure ranks align with written comments

Take advantage of Stage 2

Learn from other reviewers and refine the Stage 1 reviews

Mitigate bias

Bias

Language bias
Judging writing quality instead of scientific quality

Confirmation bias
Overweighting information that matches your expectations

Anchor bias
Letting your first impression override later evidence

Strategies to mitigate bias

- Awareness
- Allocate sufficient time
- Challenge first impressions
- Focus on science, not writing style
- Follow dual-anonymous guidelines

Written reviews

Key characteristics of an effective written review

Clear
Strengths and weaknesses are clearly identified and explained

Specific
Supports the comments with examples from the proposal

Actionable
Provide actionable feedback. Suggest solutions, not problems

Constructive
The tone is professional, objective and respectful

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?