

STUC December 2025 Report

STUC Membership

Joe Burchett (New Mexico State University), **Sarah Casewell** (University of Leicester), **Annalisa De Cia** (ESO Garching), **Matthew Hayes** (Stockholm University), **Griffin Hosseinzadeh** (University of California, San Diego), **J. Christopher Howk** (University of Notre Dame), **Philippa Molyneux** (Southwest Research Institute), **Megan Reiter** (Rice University, Vice Chair), **Harry Teplitz** (Caltech/IPAC, Chair), **Katherine Whitaker** (University of Massachusetts, Amherst), **David Zurek** (American Museum of Natural History)

1. Meeting Summary

The STUC met online on December 18 & 19, 2025. At this meeting, we welcomed three new members: **Joe Burchett** (New Mexico State University), **Griffin Hosseinzadeh** (University of California, San Diego), and **David Zurek** (American Museum of Natural History). **Harry Teplitz** served as chair for this meeting. Two members completed their term on the committee: **Ata Sarajedini** (Florida Atlantic University, Chair Spring 2025) and **Harry Teplitz** (Caltech/IPAC).

As we celebrate the 35th anniversary year of HST operations, the observatory continues to operate with impressive scientific productivity, with over a thousand refereed papers based on HST data in 2024. The December meeting covered a range of topics, including Hubble operational and programmatic status, science results, budget environment and the Rocky Worlds project. News from the meeting was also summarized in the [STUC Newsletter](#).

Before discussing specific recommendations, the STUC would like to congratulate STScI and the Hubble Project on their inspiring success during a very challenging year. Despite operating under highly uncertain conditions, the teams have continued to run the observatory with exceptional efficiency and have enabled world-class research. Specifically, the STUC commends the Hubble teams for the following:

- The highly positive outcome of the recent mission Senior Review, which provided an “enthusiastic endorsement of continuation of Hubble as a primary NASA flagship mission” – the strongest possible result of such a review.

- The STUC congratulates ESA on their progress in the renewal process for Hubble mission partnership.
- Hubble continues to produce exceptional scientific results that capture the imagination of the global community year after year. Especially notable were recent successes in rapid time-domain observations, including:
 - A new record ultrarapid ToO turnaround time of under 24 hours to obtain imaging of SN 2025ulz and its host galaxy (GO-17805; PI: Troja). While initially a candidate counterpart to the gravitational-wave event S250818k, HST observations supported its classification as an unrelated supernova (Yang et al. 2026, ApJL, 996, L24).
 - A second ultrarapid ToO with a turnaround time of 42 hours (GO-17764; PI: Bostroem), probing mass loss around the progenitor of SN 2025tis with one of the earliest UV spectra of a core-collapse supernova to date.
- The Hubble project team is successfully nearing completion on several long-term projects, including the recovery of Side B electronics and the improvement in operation of the Fine Guidance Sensors to ensure greater longevity.
- The STUC also commends the Hubble team for ongoing operations success and scheduling efficiency. Hubble is now routinely operating well in Reduced Gyro Mode (RGM), having not experienced a gyro anomaly since June 2024, and is observing close to peak efficiency.
- The STUC is happy to see continued progress on enabling archive and analysis services for the research community, including the production and release of the Hubble Spectroscopic Legacy Archive (HSLA) and recent upgrade to the notebook repository.

2. Concerns Arising from the Presentations

The STUC is concerned about potential risks to Hubble from several directions. These concerns include:

- The STUC continues to be concerned about the budget environment and the challenges that Hubble is facing in the case of funding uncertainty or cuts. The outcome of the appropriations process for Fiscal Year 2026 is more favorable than many feared it would be, but success in future years will likely require continued advocacy by the Hubble community.
- The STUC shares STScI's concern about the difficulty managing proposal submissions and evaluation, including recruiting TAC panel members for multiple telescopes. The number of proposals and reviewers that STScI manages every year is very high and impressively growing, and the STUC is concerned for the sustainability in the long run. The STUC supports the STScI initiatives aimed at increasing the efficiency in the proposal submission

and evaluation processes, including changes of science policies, deadlines, and improvements of software/tools. The STUC discussed possible additional strategies for improvement (see Recommendations). Regarding the timing of reviews, it is important to prioritize which conflicts to avoid when scheduling review panels and deadlines. Regarding submission deadlines, the STUC is concerned about overlap with early career proposers' other major deadlines, including fellowship applications and proposals for other telescopes. However, it must be acknowledged that there are many deadlines and some overlap may be unavoidable. In addition, the STUC is concerned that the format of the survey polling the observing community may not provide sufficiently informative guidance, given the natural tendency for respondents to prefer later deadlines.

- STScI presented an update on the plan for the Long-Term Monitoring Director's Discretionary program. This program has taken longer than expected to be planned, and the STUC continues to believe it will deliver excellent science. The STUC is concerned about the delay, but understands the need to fully evaluate the current report on a potential program. The STUC also suggests looking for ways to streamline similar procedures in the future.
- Despite the high Hubble technical operational reliability and current stability, concerns about Hubble's health are still widespread in the community. The community as a whole has not fully received the good news of how well RGM is working and the small number of failures. The community would also benefit from clear messaging about Hubble's expected lifetime.

3. Recommendations from the STUC (in no particular order):

- The STUC recommends communicating to the community that the NHFP is approaching parity in cost with GO funding. It is a growing concern that inflation and other cost drivers for NHFP are cutting into other opportunities for early career researchers, especially graduate students, and could thus impact training the user community and community expertise for future missions. That said, the STUC acknowledges that the NHFP budget is mandated by NASA and is not a decision made by the Hubble project. Nonetheless, it is important for NASA to understand that protecting funding for the most successful early career scientists, who are typically concentrated at a small number of prestigious institutions, does come with a cost of supporting others in the much broader community who may not have the same opportunities.
- The STUC recommends that Hubble continue engaging with the broader community to ensure that misconceptions do not erode its place in the public imagination. For example, it is important to emphasize that JWST is not a replacement (given Hubble's UV

capabilities, long time baseline, etc). Some suggestions from previous STUC reports are still relevant today. In addition, the project should look for ways to leverage press releases to tell the story of operations success, such as RGM stability in the context of science results. Furthermore, while it is a difficult story for STScI to tell, it is important for the public to know when there are budgetary or programmatic threats to Hubble science. Finally, the STUC recommends that Hubble leverage existing partnerships with science museums, planetariums and similar facilities to get the word out on success and to clear up misconceptions. For example, it may be useful to compare to what [NOIRLab is doing with planetarium shows](#).

- The STUC recommends that STScI confirm/re-examine time-domain policies after the full impact of the limited Field of Regard can be assessed. It will be important to continuously monitor the success of policies like Flexible Thursdays by looking at science return vs. cost in the context of the publications they enable. However, it will also be important to include the effects of upcoming facilities and surveys (e.g., Rubin's LSST) in this analysis.
- As discussed above, the STUC recognizes the seriousness of the difficulty in recruiting TAC and Panel members for Hubble reviews. The STUC considered several strategies that may be worth exploring:
 - STScI could make it easier to volunteer, perhaps by initiating a self-nomination form like that from [NASA headquarters](#).
 - There may be an opportunity to improve the persuasion in invitations to serve as a reviewer by emphasizing career value and by asking people who decline to suggest replacement reviewers.
 - The STUC recommends evaluating the pros and cons of processes at other observatories. In particular, a study of the distributed peer review (DPR) process (ESO, ALMA, Gemini, etc., which all have DPR with different implementations) may be valuable, though the STUC recognizes that DPR can also be challenging.
 - The STUC recommends looking at ways to set the HST proposal submission deadline later, when more conflicts become known, possibly by reducing the lead time between scheduling and convening the TAC panels.
 - The STUC is supportive of recent changes in the DD policy to reduce the number of recruited reviewers and the stress on reviewers. However, there is some concern that a two-step (internal and external) process could lead to delays in time-sensitive observations. STScI should look at the possibility of also including an internal approval, as well as rejection, of proposals. Whatever decisions are finally made, it is important to make the new process clear to the community.
- The STUC recommends carefully managing the initiative to include AI in the telescope allocation process. The committee generally supports the use of AI for efficiency and appreciates STScI's recognition of the need to protect confidential proposal material. In

particular, the STUC emphasizes that AI should never be allowed to *train* on proposal material, as this could present copyright and other ethical concerns. The STUC recommends that STScI should disclose in detail to the community how AI is being used, including the established safeguards in place to ensure responsible and ethical use. This is a big change so it should be advertised in a prominent way. The STUC recommends publication of a white paper or a report as a good approach.

- The Call for Proposals currently includes a brief policy on the use of generative AI in proposals, which includes a statement that “[r]eviewers are forbidden from uploading proposal content or review materials to GAI tools.” As internal AI tools are introduced into the review process, STScI should clarify and expand on this section so that proposers have a better understanding of acceptable use and are aware of any changes to the review process.
- Similarly, the STUC recommends that STScI consider giving TAC panelists and external reviewers training on (1) how to evaluate AI use by proposers and (2) appropriate use of AI in the review process. For example, the STUC is concerned that there is no technical solution to enforce the rule prohibiting undisclosed AI use by proposers.
- Given the serious concern about risks, the STUC would like to continue to be updated at future meetings.
- As noted above, the STUC suggests looking for ways to streamline procedures in the future for Director’s programs like the Long-Term Monitoring project.

We encourage the community to view the presentation slides on the [STUC website](#) and provide feedback to STScI and to the STUC via the link on the STUC webpage.