



STScI | SPACE TELESCOPE
SCIENCE INSTITUTE

EXPANDING THE FRONTIERS OF SPACE ASTRONOMY

HST Cycle 29 External Panelist Orientation

<https://hst-docs.stsci.edu/hsp/hubble-space-telescope-science-policies-group-and-peer-review-information>

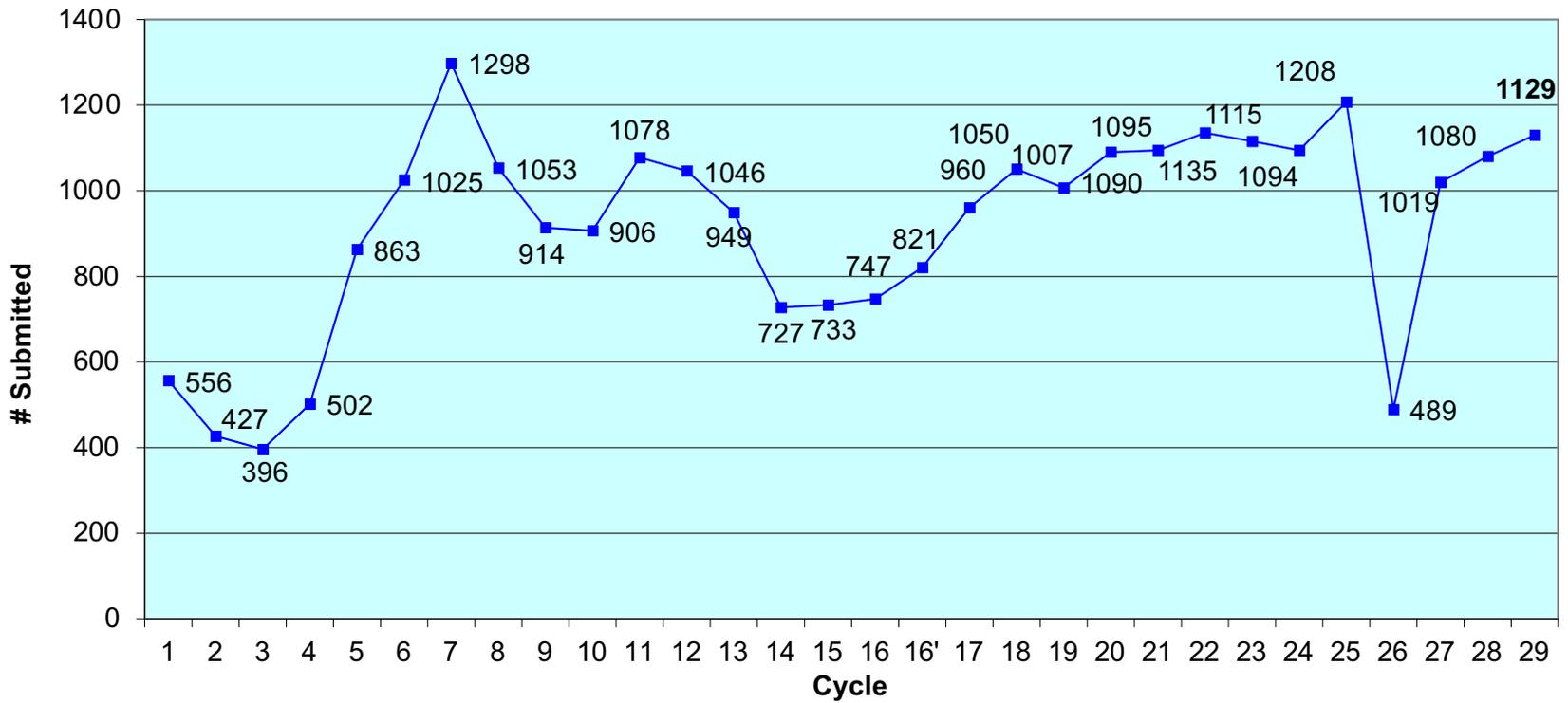
Claus Leitherer

May 10, 2021

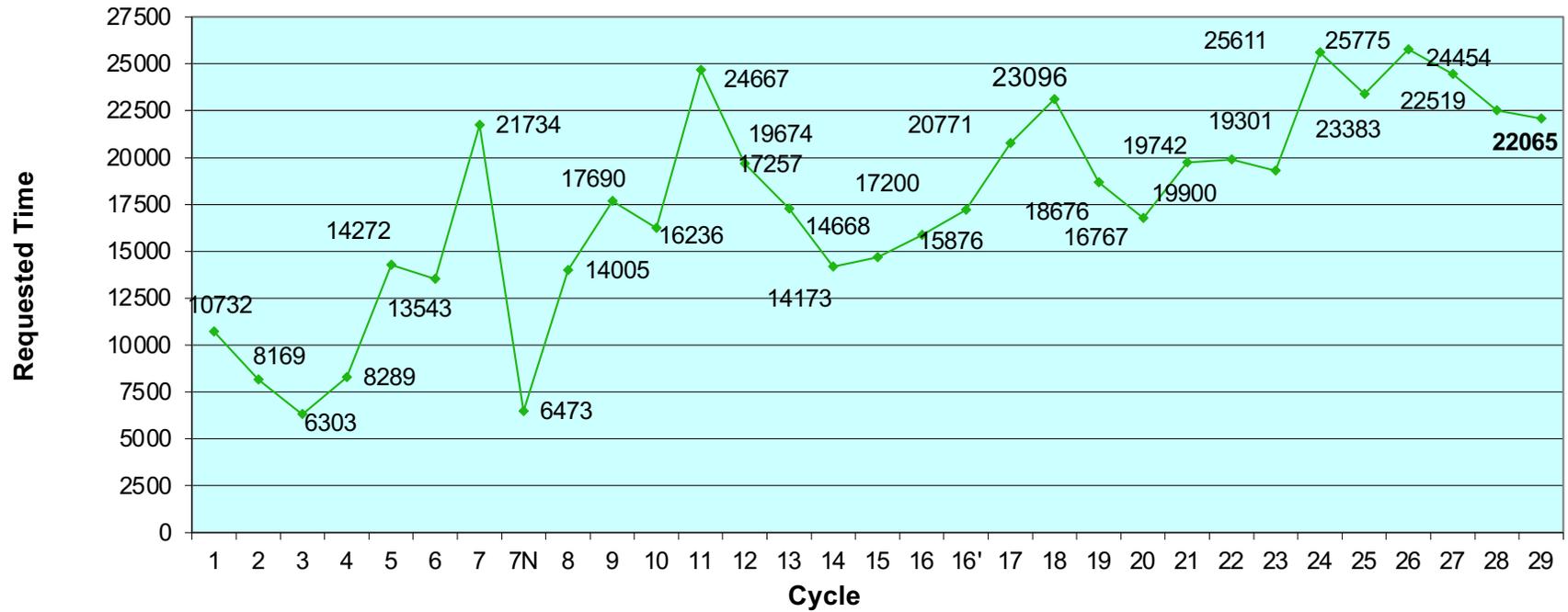
Cycle 29 Proposal Review Schedule

Date	Milestone
April 9, 2021	Cycle 29 Proposal Deadline
May 3, 2021	STScI releases proposals to panelists for review
May 4, 2021	Orientation meeting for Panel Chairs
May 6, 2021	Orientation meeting for Virtual panelists
May 7, 2021	Deadline for panelists to identify conflicts of interest
May 10, 2021	Orientation meeting for External panelists
June 2, 2021	Deadline for Virtual panelists to submit preliminary grades for their assigned proposals
June 4, 2021	Deadline for External panelists to submit grades and comments for their assigned proposals
June 4, 2021	STScI sends each virtual panelist the list of proposals to be discussed by their panel
June 9, 2021	Deadline for EC to submit preliminary grades for Large, Treasury and AR Legacy proposals
June 15, 2021	STScI releases list of proposals to be discussed during the EC meeting
June 16 – 18, 2021	Virtual panels meet
June 21 – 23, 2021	Executive Committee meets
June 25, 2021	Deadline for Panel Chairs to submit final consensus reports
July 2, 2021	STScI releases the Cycle 29 Science Program

Cycle 29 Proposal Submissions



Cycle 29 Orbit Requests



Cycle 29 Summary Statistics

Total Proposals	1129 (1080)	Cycle 29	Cycle 30	Cycle 31
<i>GO</i>	926 (865)	22,065 (22519)	833 (422)	256 (218)
<i>SNAP</i>	44 (41)	5,014 (6160)	Targets	
<i>Archival Research</i>	Regular	Legacy		
<i>Regular</i>	95 (96)	21 (27)		
<i>Theory</i>	44 (54)	1 (3)		
<i>Total</i>	159 (150)	22 (24)	181 (174)	
<i>ESA</i>	244 (213)			
<i>ESA GO</i>	232 (203)	5,958 (6170)	Orbits	
<i>ESA SNAPs</i>	10 (9)	921 (1081)	Targets	
<i>ESA AR</i>	2 (1)			
			ESA	Orbits
<i>GO Large</i>	31 (39)	3,581 (4033)	12 (15)	1,301 (1605)
<i>GO Medium</i>	117 (130)	5,743 (6259)	24 (31)	1,199 (1572)
<i>GO Treasury</i>	21 (22)	2,457 (2886)	8 (9)	875 (937)
<i>Pure Parallel</i>	2 (8)	430 (2195)	0 (0)	0 (0)

Useful Definitions

- **Virtual panels/panelists:** eight panels meeting virtually, and discussing, grading and ranking proposals in their respective science categories. Pre-pandemic, these panels physically met at STScI.
- **External panels/panelists:** seven panels (none for Solar System) grading a subset of Small proposals. Their grades are used by STScI to generate a rank-ordered list of proposals in each science category.
- **External reviewers:** experts who provide written input for the largest proposals but are not members of the TAC.
- **Executive Committee:** the panel discussing, grading and ranking the largest proposals, composed of the TAC Chair, Panel Chairs and Vice-Chairs, and At-Large Members.
- **Telescope Allocation Committee (TAC):** the body of all members of the Executive Committee and the Virtual and External panels.

Telescope Allocation Committee (TAC) Organization

- **Overall TAC Chair:** Ata Sarajedini
- **Eight Scientific Categories:** (1) Solar System Astronomy, (2) Exoplanets and Exoplanet Formation, (3) Stellar Physics and Stellar Types, (4) Stellar Populations and the Interstellar Medium, (5) Galaxies, (6) Circumgalactic and Intergalactic Medium, (7) Supermassive Black Holes and Active Galaxies, and (8) Large Scale Structure of the Universe.
- Each scientific category has a corresponding topical panel. Each **virtual panel** is asked to review Small (16 – 34 orbits) and Medium proposals and to advise the Panel Chair and Vice-Chair on Large, Treasury, and AR Legacy proposals. Each **external panel** is asked to grade Small proposals requesting 1 – 15 orbits, as well as AR and SNAP proposals.
- The **Executive Committee**, led by the TAC Chair, is comprised of the At-Large members (3), the Panel Chairs (8), and the Panel Vice-Chairs (7). The Executive Committee reviews the Large, Treasury, and AR Legacy programs and reviews the overall programmatic balance.

Virtual versus External Panels

Hybrid approach: dividing proposals between external review and virtual discussion.

External panels provide the assessment and grading of a subset of Small GO proposals (1 – 15 orbits) including Snapshot and Archival proposals.

- These proposals are ranked by STScI using the grades of the external panelists.

Virtual panels review the remaining Small (16 – 34 orbits) GO and Medium proposals. After the initial triage, panelists interact virtually by video-conference.

- These proposals are ranked after the discussion and grading in the group panels.

Exceptions – all Solar System and all Small/Medium Target of Opportunity proposals will be reviewed by the virtual panels.

You are an external panelist.

Panels and Associated Science Categories

Seven external panels with these science categories:

- **Solar System:** all bodies in our solar system (*virtual panel only*)
- **Planets and Planet Formation:** exoplanets, planet formation, debris disks
- **Stellar Physics:** cool + hot stars, late stages, low-mass stars, star formation
- **Stellar Populations:** Galactic structure, star clusters, resolved stellar populations in galaxies, ISM in local galaxies
- **Galaxies:** stellar content of galaxies, ISM in galaxies, dynamics, galaxy evolution
- **Circum- and Intergalactic Medium:** outflows, galaxy halos, IGM, QSO absorption lines
- **Supermassive Black Holes:** AGN, QSO, SMBH, jets, galaxy/BH co-evolution
- **Large-scale Structure:** cosmology, lensing, galaxy clusters, surveys, deep fields

Dual Anonymous Review

In a Dual Anonymous Review, the identities of the proposal teams have been removed from the proposals prior to the preliminary review.

During the TAC meeting, panels grade proposals without knowing the identities of the proposal teams.

Panelists should flag any proposals they identify as not compliant with the posted Dual Anonymous Review guidelines and bring them to the attention of SPG (<https://hsthhelp.stsci.edu>).

SPG will provide guidance for how to proceed.

HST TAC Summary and Agenda

- **External panels** grade proposals between May 3 and May 24.
- The proposals are categorized by science topic and sent to seven panels which host external panelists who are experts on this topic.
 - Reviewers grade on an absolute system (excellent → poor)
 - Grades are collected, averaged and ranked list compiled for that topic
 - Orbit allocation by topic based on proposal/orbit pressure
- The highest ranked proposals are marked as recommended for acceptance
 - “Recommended” proposals made available to the Chairs of the virtual panels prior to the virtual panel meetings
 - The panel chairs will use this information to monitor the programmatic balance of the recommended list of proposals reviewed by individual and group panelists.



Policy Issues

Conflict of Interest

Our goal is informed, unbiased discussion of each proposal

- Grading panel members should have neither direct nor indirect interest vested in the outcome of the review
- Grading panel members should also have sufficient knowledge to assess the science

Anonymizing proposal simplifies conflicts

- We only consider personal conflicts
 - Direct involvement in the proposal
 - Involvement of close collaborators/competitors/family members based on names supplied by individual panelists
- Institutional conflicts are **not** considered
- Panelists may flag additional conflicts found while reviewing a proposal
 - Please raise any such concerns with SPG members (<https://hsthhelp.stsci.edu>)

Close Collaborators

Who qualifies as a close collaborator?

- **Active** collaborator on a current research program (including Cycle 29 HST proposals)
- **Active** co-author on 3 or more papers in last 3 years
 - i.e. more than a participant in a large project (e.g. SDSS)
- **Active** collaborator on several recent programs
 - At least 3 projects completed in last 3 years

Key question: would my personal research benefit (or would there be an *appearance* of benefit) if this proposal is accepted?

If the answer is yes, then there is a conflict

Conflict of Interest: Procedures

- Panelists complete the Conflicts of Interest Disclosure form
- Do not try to guess the names of the investigators on the proposal
- In almost all cases, conflicts are already recorded in our database

If in doubt, ask the Science Policies Group (<https://hsthhelp.stsci.edu>) for clarification.

General Guidelines

- Panel Members should assume that all instruments will be performing nominally in Cycle 29
- Panel Members should not modify proposals unless there is a very strong Scientific Justification
- Panel Members should *not* reject proposals based on technical considerations without concurrence by STScI
 - STScI will perform a technical review on all accepted proposals and will work with successful PIs to make programs flight ready. If technical questions arise during the review, please contact an SPG Scientist (<https://hsthhelp.stsci.edu>).
- Panel Members should *not* take scheduling considerations into account in grading proposals.

Concentrate on recommending the best science...

but recognize that it may not be possible to schedule all highly ranked programs



Panel Procedures

Selection Criteria and Scoring System

Selection Criteria

- The scientific merit of the program and its contribution to advancement of knowledge – How does the proposed investigation impact our knowledge with the specific sub-field?
- The program’s impact for astronomy in general – Are there implications for other science areas and/or insights into larger-scale questions?
- A demonstration that the unique capabilities of HST are required to achieve the science goals – suitability for HST; how much of an advantage does HST data offer over other facilities? This applies to both GO and AR proposals; Theory proposals should have broad applicability to HST observational programs.

Scoring System

Grade	Impact within the sub-field	Out-of-field impact	Suitability
1	Potential for transformative results	Transformative implications for one or more other sub-fields	Science goals can only be achieved with HST
2	Potential for major advancement	Major implications for one or more other sub-fields	Major advantages in using HST over other facilities
3	Potential for moderate advancement	Some implications for one or more other sub-fields	Some advantages in using HST over other facilities
4	Potential for minor advancement	Minor impacts on other sub-fields	Minor advantages in using HST over other facilities
5	Limited potential for advancing the field	Little or no impact for other sub-fields	HST offers little or no advantage over other facilities or the advantages of using HST are unclear.

Reviewers must ensure that the comments address some or all of these primary criteria

Code of Conduct

All participants in the proposal review process are expected to:

- Read the Review Information Guide and familiarize themselves with their role and responsibilities.
- Complete their contributions in a timely fashion, or communicate when this will not be possible.
- Be mindful of bias in all contexts.
- Be respectful in any written or verbal communications you have as part of the review process.
- Be prepared and contribute to the panel review. Evaluate the scientific merit of the proposal.
- Be polite and professional in your written feedback comments, especially when providing critical comments.

Panel Review: Overview

- Each panel has a specific allocation of **N orbits for Small GO proposals**
- Calibration proposals are drawn from a separate pool of orbits
- Snapshot proposals have a combined target allocation over all panels
- Archival proposals request funding only, but no orbits
- Panelists review and grade all proposals assigned to them.
- GO, Snapshot and Archival proposals should be graded using the same scale
- All proposals receive (polite) comments

Types of Proposals

GO	Observing proposals requesting 1 – 15 orbits
Snapshot	Observing proposals requesting a number of targets (often surveys)
AR	Archival research proposals requesting funding (US investigators only)
Special categories	
Long-term	allocate time in C29 – C31 if justified <u>scientifically</u>
CVZ	no penalty to observer if executed as non-CVZ
Calibrations	Calibrate specific modes of HST observation
Reg. HST-Chandra	< 75 HST, up to 400 ksec Chandra, < 15% time-constrained
HST-XMM	Up to 150 ksec
HST-NOAO	Up to 15-20 nights available on most telescopes
HST-NRAO	Up to 3% of the available time (North America)
HST-TESS	Up to 100 TESS targets

Cycle 29 Orbit Allocations

2700 orbits for GO (Large + Medium + Small)

- 1400 for Small proposals (1 – 34 orbits)
- 700 for Medium proposals (35 – 74 orbits)
- 600 for Large/Treasury programs (TAC)

TAC may recommend adjustments to the Small/Medium/Large split

Orbit oversubscription is 7.3×, 8.2× and 10.1× for Small, Medium, and TAC, respectively.

SNAP: 1000 targets available across panels (5.0× oversubscription)

Proposal Comments

- Comments are required for all proposals.
- The deadline for external panel members to enter comments is June 4, 2021.

Proposal Comments: Detailed Instructions

- Proposal feedback comments should be concise. Please avoid “questions” in the comments. For example, “the proposal did not sufficiently motivate the number of requested targets” is preferred over “why have 6 targets instead of 5?” The reports should focus on the scientific content and not the reviewer. For example, "The proposal did not sufficiently explain why these targets were chosen" is preferred over "It is not clear to me why these targets were chosen"
- Comments that may be perceived as derogatory or insulting must be avoided.
- Reviewers cannot be sure at the time of writing feedback comments whether the proposal will be accepted. The comments should be phrased in such a way that they are sensible and meaningful regardless of the final outcome.
- Many proposals do not have obvious weaknesses but are just less compelling than others. **However, never include in the report an explicit reference to another proposal, such as the proposal ID.** Whenever possible, make suggestions for possible improvements, but avoid giving the impression that following those suggestions guarantees that the proposal will be more successful in next cycle.

Confidentiality

- Remember that you should not discuss any proposal you were assigned to review – now, or in the future.
- Do not post comments to Facebook, “Tweet”, etc. regarding the content or your participation in the panel meeting.
- Confidentiality carries from prior years: Do not discuss/compare prior years proposals in this review



Personnel & Logistics

Key STScI Staff

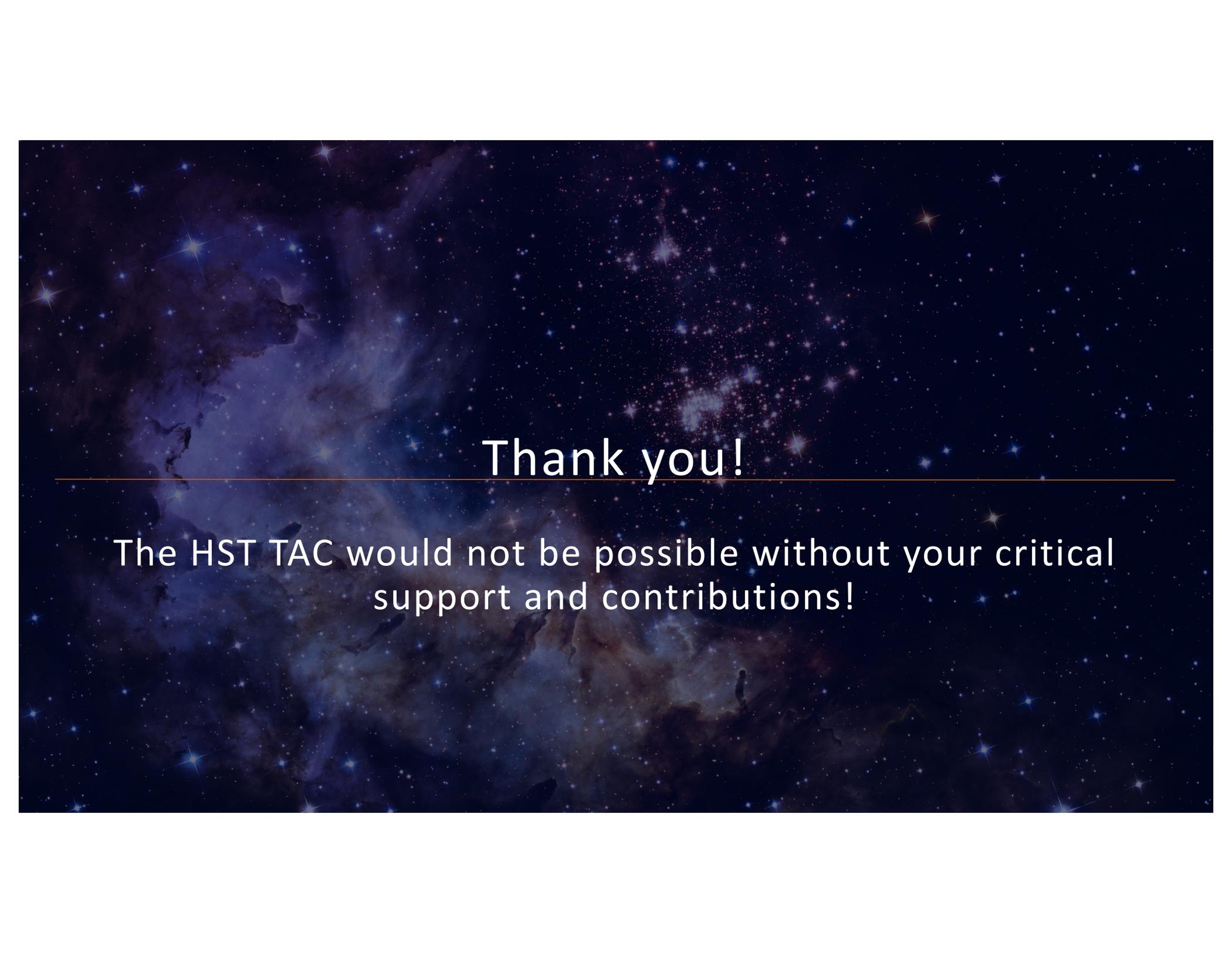
- Director's Office
 - **Ken Sembach** – Director
 - **Nancy Levenson** – Deputy Director
 - **Neill Reid** – Assoc. Director for Science
- Science Mission Office
 - **Alessandra Aloisi** – SMO Mission Head
 - **John Debes** – SMO Deputy Head
 - **Claus Leitherer** – Head of the HST Science Policies Group
 - **Andy Fruchter, Molly Peeples, Linda Smith, Laura Watkins** – SPG Astronomers
 - **Brett Blacker** – SPG Technical Manager
 - **Kimberly Oylar** – SMO Administrative Lead
 - **Martha Devaud, Sherita Hanna, Flory Hill** – SPG Administrative Staff
 - **Jean-Baptiste Regnard** – ESA Administrative Staff
- Hubble Mission Office
 - **Tom Brown** – HST Mission Office Head
 - **Carol Christian, Helmut Jenkner, John MacKenty, Rachel Osten** – Mission Office Scientists
- Operations & Engineering Division
 - **Bill Januszewski** – Operation Planning Branch

TAC Support

- The TAC review is supported by 187 external panelists
- 60 panelists from ESA member states
- Continuing partnership with ESA

After the TAC

- As always, we welcome feedback on the TAC process
 - How did the grading process work?
 - Can we improve it?
 - What were the main shortcomings?
- We will send email to all Panel members requesting your views of the process



Thank you!

The HST TAC would not be possible without your critical support and contributions!