

A detailed illustration of the Hubble Space Telescope in orbit above Earth. The telescope is shown from a three-quarter perspective, highlighting its cylindrical body, the large primary mirror at the front, and the two large rectangular solar panel arrays extending from the sides. The Earth's blue and white atmosphere is visible in the background, curving around the planet. The text 'NASA' and 'ESA' are visible on the side of the telescope's main structure.

TAC - June 5, 2016

Claus Leitherer

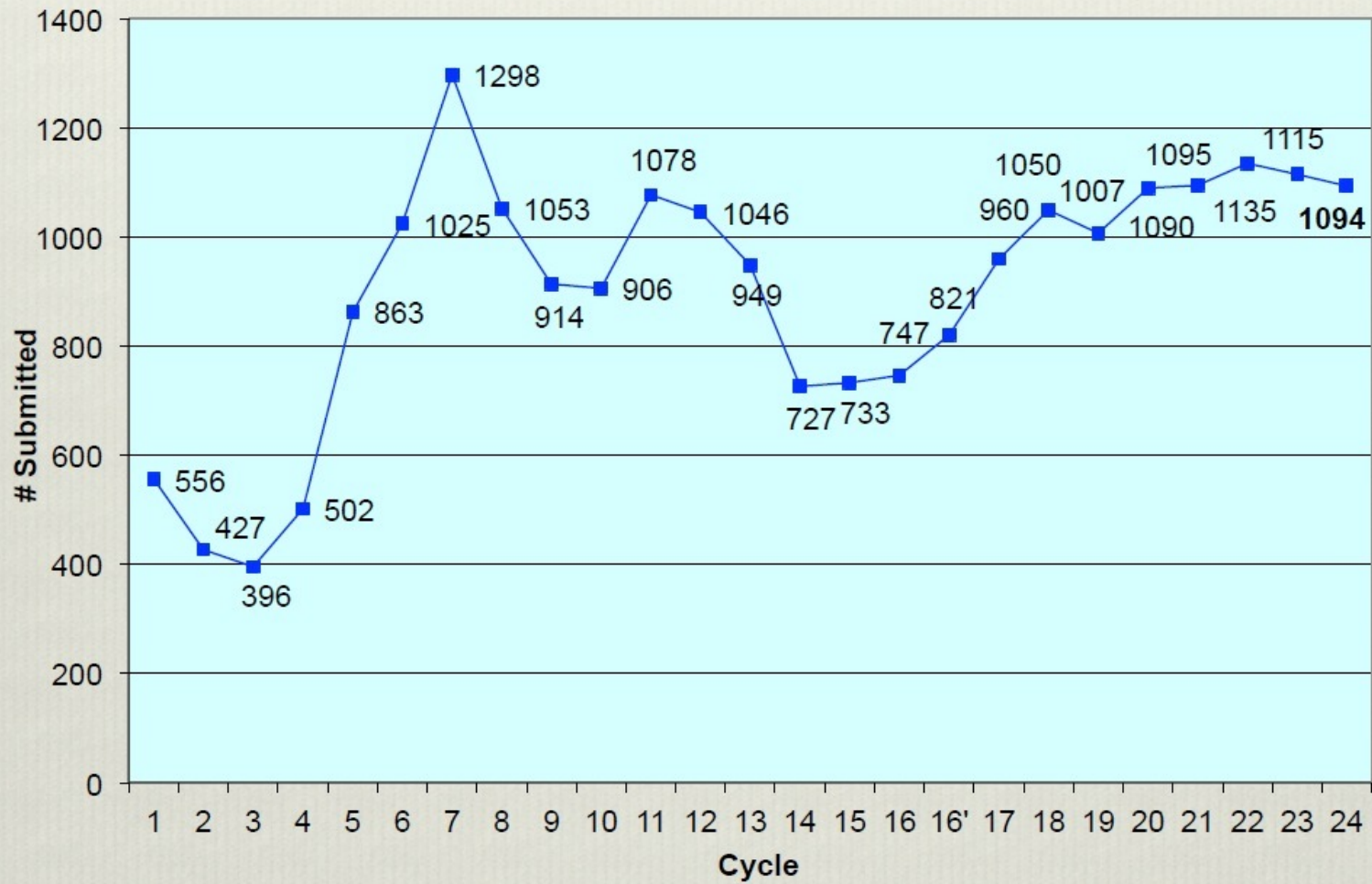
Cycle 24 Orientation

<http://www.stsci.edu/hst/proposing/panel/CYCLE24Orientation.pdf>

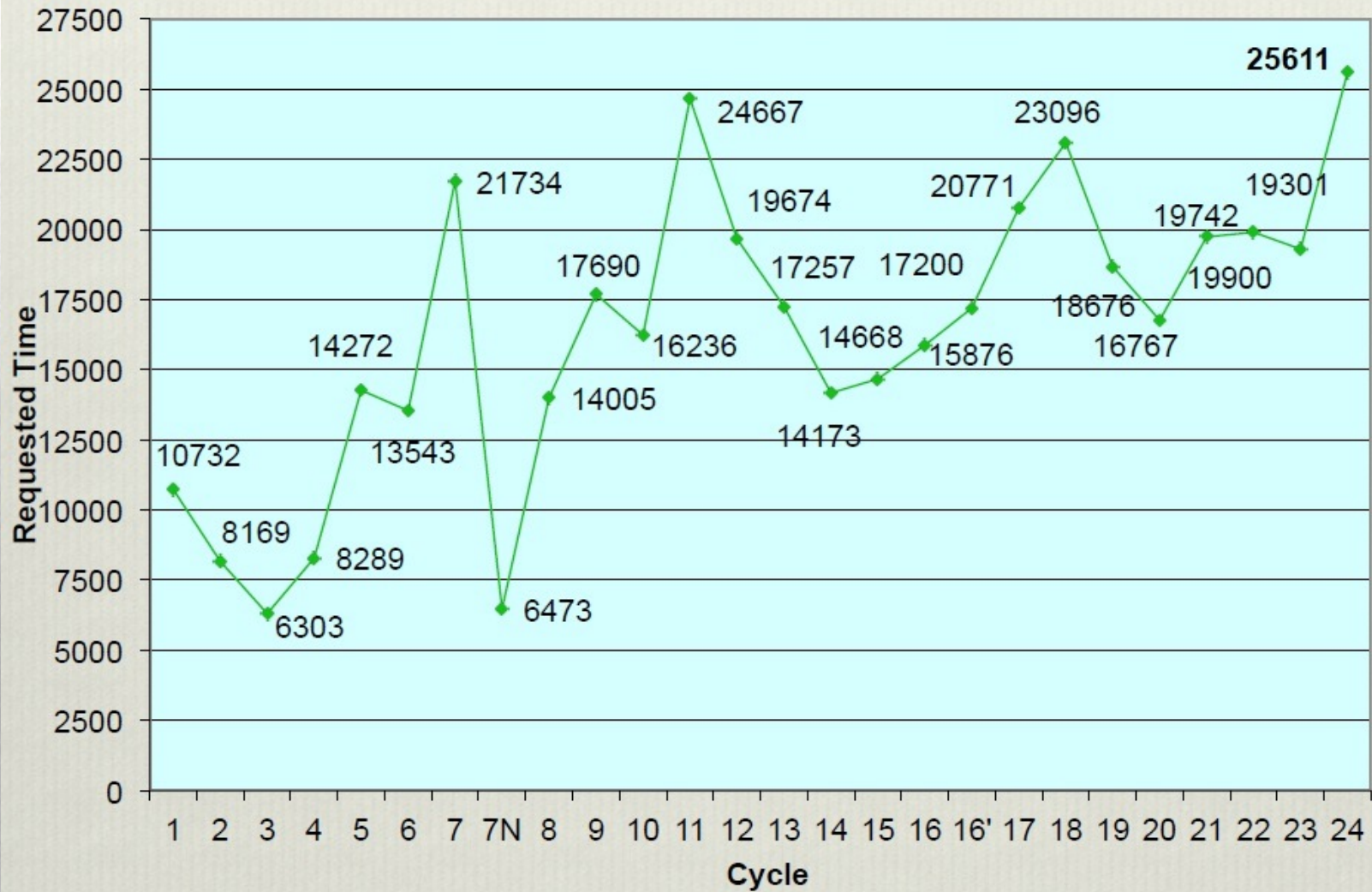
Phase I Schedule for Cycle 24

- **Jan 13** CP release
- **April 8** Phase I deadline
- **April 29** Download available for panelists
- **May 25** Preliminary grades
- **June 6 – 8** Panels meet
- **June 8 - 10** TAC meets
- **June 17** Director's Review
- **Early July** Notifications

Proposals by Cycle



Orbits by Cycle



Summary Statistics

- 1094 Proposals in Cycle 24 (1115 in Cycle 23)
 - 796 NASA, 242 ESA, 56 Other Countries
- 891 (891) GO for 25,611 (19,301) orbits
 - 28 (21) Treasury for 9073 (2851) orbits
 - 30 (30) Large for 3090 (3138) orbits
 - 93 (94) Medium for 4493 (4349) orbits
- 36 (42) SNAPSHOT proposals for 3718 (4497) targets
- 167 (182) Archival proposals
- 2 (2) Pure Parallel programs for 1080 (720) orbits

Review schedule

- Panels meet Monday morning → noon Wednesday
- Panels review broad science areas
- “Mirror” panels minimize conflicts (except for Solar System)
- Panels review
 - Regular (Small and Medium) GO proposals (1-74 orbits)
 - Snapshot proposals (<250 targets)
 - Regular Archive & Theory proposals
 - Calibration proposals
- Panelists advise panel chair on Large/Treasury proposals
 - Past Large/Treasury programs: <http://archive.stsci.edu/hst/tall.html>
- TAC meets Wednesday noon → 5pm Friday
- TAC reviews
 - Large GO (≥ 75 orbits) & Large Snapshot proposals
 - Treasury GO proposals
 - AR Legacy Proposals

Types of Proposals

Standard proposals	
GO	Small (1-34 orbits); Medium (35-74); Large (≥ 75)
SNAP	Targets; no guarantees; <45 mins; 2-year viability
Special categories	
Long-term	allocate time in C25, C26 if justified scientifically
ToO	ultra-fast (<2 d) ToO: 1 activation allowed; 2-21 d ToOs: 8 activations; >21 d: no limit
CVZ	no penalty to observer if executed as non-CVZ
Calibrations	Calibrate specific modes of HST observation
HST-Chandra	Up to 400 ksec, 60 ksec time constrained
HST-Spitzer	Up to 60 hours, 20 hours maximum per proposal
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)

UV Initiative

- A UV initiative is again supported to ensure the unique UV capabilities of HST are fully utilized while they still exist.
- The initiative uses **orbit allocation targets** to increase the share of primary GO observing time dedicated to UV observations.
- There is also a category of **UV archival proposals**, aimed at producing UV-specific high-level data products and tools for the Hubble archive, which will enable broader use of those datasets by the community.

UV Initiative (cont.)

- Each **panel** should aim to devote **at least 40%** of its orbit allocation to UV-specific science.
- The **TAC** should aim to devote **at least 50%** of its orbit allocation to UV-specific science.
- **These allocations are targets, not quotas.** UV-specific proposals recommended for acceptance must meet the usual requirement of high scientific quality set for all successful Hubble proposals.
- Proposals in this category are flagged as “UV Initiative” in APT.
- We received 331 GO’s for 9977 orbits and 38 AR’s.

Policy Issues

Conflict of Interest

Our goal is informed, unbiased discussion of each proposal

- Voting committee members should have neither direct nor indirect interest vested in the outcome of the review
- The subset of the review committee discussing the proposal should have sufficient knowledge to assess the science

We identify two types of conflict:

Major conflicts

- Personal involvement (PI or Co-I)
- Recent former advisor/student of PI or Co-I
- Involvement in closely competing proposal (same targets or science)
- Close personal ties (family, etc.) with PI or Co-I

Minor conflicts

- Institutional conflict, i.e. same department/institution as PI or Co-I
- Close collaborator with PI/Co-I on the proposal
- Any other reason for discomfort

Close collaborators

Who qualifies as a close collaborator?

- **Active** collaborator on a current research program (including Cycle 24 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 sign Conflicts of Interest Disclosure form and return to PSS
- Chair (aided by PSS) is responsible for checking conflicts
- Note conflicts before discussing each proposal
- Minor conflicts (Institutional, Co-I collaborator):
 - Conflicted panelist(s) can choose to participate in the proposal discussion
- Major conflicts (all others):
 - Conflicted panelist(s) leaves the room during proposal discussion and during the vote

In all cases, conflicted panelists do not vote

If in doubt, ask SMO/SPG for clarification.

Duplication policy

- NASA policy protects current GO programs against duplication by later-cycle GO programs; duplicate targets will be disallowed or embargoed
- Duplications are defined as *same target or field, same or similar instrument, similar mode, similar spectral range, similar exposure time. Consult SPG staff if in doubt.*
- The PI is responsible for noting duplications. Panels should approve duplications explicitly (in comments) or observations can be disallowed.
- Same-cycle duplications: avoid duplicate targets within and between panels. No “forced collaborations” allowed.
- Cross-panel duplications flagged by STScI staff and resolved by Chairs of “mirror” panels
(@Breakfast meeting, 2nd/3rd days).

STScI instrument scientists will check accepted proposals for duplications

General guidance for Cycle 24

- Panel members should assume that all instruments will be performing nominally in Cycle 24
- Panel members should not modify proposals unless there is a very strong scientific justification
- Panel members should *not* reject proposals based on technical considerations
 - All proposals are reviewed by STScI after Phase I. If technical questions arise during the panel review, please summon a relevant expert.
- 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 some highly ranked programs

Panel Procedures

Panel Distribution in Cycle 24

- 15 panels with these science categories:
 - Solar System: all bodies in our solar system
 - Planets and Planet Formation 1/2: exoplanets, planet formation, debris disks
 - Stellar Physics 1/2/3: cool+hot stars, late stages, low-mass stars, star formation, local ISM
 - Stellar Populations 1/2: Galactic structure, resolved stellar populations in galaxies
 - Galaxies 1/2/3: stellar content of galaxies, ISM in galaxies, dynamics, galaxy evolution
 - Black Holes and Hosts 1/2: AGN, QSO, SMBH, jets, galaxy/BH co-evolution
 - IGM and Cosmology 1/2: QSO absorption lines, IGM, cosmology, lensing, galaxy clusters, surveys

New in Cycle 24

- **Preliminary grades** are not provided to the panels
- The preliminary grades are used only for creating a triage list and are not used for any other purpose
- The proposal are ordered by proposal ID; rankings are not provided in order to eliminate any bias
- The **investigator list** is in alphabetical order; the principal investigator is not flagged.
- The proposers may have identified the PI in the oral sections of the proposal.
- As in the previous cycle, the investigators are not listed on the cover page.

Panel Review: Logistics

- Panel Chair runs meeting
 - Select a co-Chair to run the meeting if Chair has to leave for conflict and to assist with review of comments on day 3
- PSS maintains database, produces ranked lists, answer questions or summon STSci staff experts, as needed.
- Technical and Policy support is available from STSci staff:
 - SPG (policy)
 - INS (instrument expertise)
 - OED (scheduling and implementation)
- Contact list by phone in each meeting room

Proposals for Triage

Lowest 40% of panel/TAC proposals are marked for triage based on preliminary grades from panelists

Why do we do this?

- Time constraints
 - 80 proposals@15 mins = 1200 mins = 20 hours
 - 48 proposals@15 mins = 720 mins = 12 hours
- Optimization & efficiency
 - Spend time discussing the best proposals
 - Avoid discussing proposals that are very unlikely to be approved
- Fairness
 - Triaged proposals can be resurrected by non-conflicted panelists but...
 - Previously triaged proposals have rarely been approved

Review Criteria *(posted in each meeting room)*

- The scientific merit of the program and its potential contribution to the advancement of scientific knowledge
- The program's importance to astronomy in general
- The extent to which the proposal demonstrates sufficient understanding to assure a thorough analysis of the data
- A demonstration that the unique capabilities of HST are required to achieve the science goals of the program
- Evidence for a coordinated effort to maximize the scientific return.
- **Reviewers should ensure that the comments address some or all of these primary criteria**

Panel Review: overview

- Each panel has a specific allocation of **N orbits for Small proposals**
- **Medium** proposals have a **separate orbit allocation**
- Snapshot & Archive/Theory allocations are drawn from a central pool
- Calibration proposals are drawn from a separate pool of orbits
- Panelists review and grade the proposals assigned to their panel, and produce a **ranked list of Small and Medium programs** that encompasses at least $2 \times N$ orbits
- All proposals receive (polite) comments
- Panelists comment on a subset of the TAC proposals

Detailed Procedures

1. Panelists with major conflicts of interest leave the room. STScI staff leave if PI or Co-I.
2. The Chair manages the process, may participate in the discussion but does not vote.
3. Primary reviewer summarizes and reviews proposal. Secondary reviewer adds supplementary comments.
4. Discussion among panelists.
5. Specify resource allocation: primary orbits, coordinated or pure parallel, proprietary period, targets (SNAP) or budget size (AR).
6. Vote on proposal via Web-Reviewer System. **Those with minor conflicts may participate in discussion but do not vote. EVERYONE ELSE IN THE ROOM (EXCEPT FOR THE CHAIR) MUST VOTE – NO ABSTENTIONS**
7. Primary Reviewer is responsible for collating all relevant comments, and recording those comments via Web-Reviewer System.

Medium Proposals

- In previous cycles Medium proposals were reviewed both by the panels and between cross-panels.
- This process proved time consuming and eliminated most experts as reviewers because of multiple conflicts.
- In this cycle the Medium proposals are reviewed solely in their assigned panel.
- Each panel ranks the Medium proposals together with all other proposals.
- The top-ranked Medium proposal may be recommended for acceptance if it is above the $1 \times N$ line. **Panels should not artificially move a Medium proposal above the line.**
- There is no orbit charge to the panel for the top-ranked medium proposal.
- Additional Medium proposals may be recommended by using the orbit pool of the panel.
- The Chairs of mirror panels will discuss the ranking in their panels during breakfast and will provide a summary at the beginning of the TAC meeting.

TAC proposals & cross-panel overlap

Panelists are asked to comment on a subset of the TAC proposals

- Proposals are assigned to appropriate sets of mirror panels considering topic and proposal load
- This allows more scope for specialist commentary, informing the chairs and aiding discussion in the TAC meeting
- Consider overlap between TAC and panel programs and consider the ranking relative to the panel proposals
- Same rules apply for conflict of interest as with panel proposals
- Panelists are *not required* to vote on TAC proposals, but may choose to do so, at the panel chair's discretion, as a guide to relative rankings

Cross-panel issues

- Mirror panels can get similar proposals due to in-panel conflicts
- After initial ranking, Chairs meet to identify, discuss and, if necessary, resolve overlapping proposals
- Chairs discuss and resolve Medium proposals across mirror panels
- If additional expertise is necessary, Chairs can ask for input from (subsets) of other mirror panels

Possible panel schedule

- Panels have ~75 proposals to discuss
- Discuss triage *process* at the outset
 - Flag proposals that could be resurrected
- Discuss and grade non-triaged proposals (~14 hrs)
- Discuss and grade any resurrected triage proposals (~1 hr)
 - Some panels prefer to group proposals by subject and intersperse the resurrected proposals
- Finalize ranking of Small, Medium, Snapshot, and Archival proposals and define “do not award” lower limit
 - Panels should consider the scientific balance
 - Panels re-rank proposals without changing the grades
- Discuss TAC proposals
- Write final report and review comments
- Total ~ 20 hours

~5 hours

Proposal Comments

- Comments are required for all proposals (including triaged proposals); these are entered via the Web-Reviewer tool.
- Primary reviewer is responsible for writing the comments; add any comments arising from the discussion to produce a final set of comments for each proposal.
- Don't make up reasons for rejection – if a proposal was good, but just didn't quite make the cut, then say so. Be particularly careful near the allocation boundaries, and remember that highly ranked proposals may not be schedulable.
- Use *Mandatory* comments only to exclude targets [e.g. duplications] or to reduce observing time allocation.
- All other comments are *advisory*.

Grading the proposals: some suggestions

Grading process & panel responsibilities

- Keep all proposal types (GO, SNAP, AR) together and organize the discussion along science themes
- Maintain one panel score sheet with all proposals included. This ensures that the grading is done in a uniform way
- Produce a final ranked list that combines GO (Small+Medium), SNAP, and AR proposals. Use the same grading scale for all three types:
 - Rank at least twice as many proposals as there are above cut-off line
 - Set a “do not award” lower limit
 - No need to rank carefully those proposals that clearly will not get accepted.
- Panel Chair [and Co-Chair] write a short summary, documenting the primary decisions of the panel, the reasoning that went into those decisions and the manner in which contentious issues were resolved .
 - The summary should capture the logic and rationale of the panel’s conclusions in sufficient detail so that it can be recalled and understood later by the STSci Director and/or the TAC

Confidentiality

- Remember that you should not discuss the outcome of the panel evaluations, now or in the future.
- Many panel members (and STScI and JHU staff) are also proposers; don't discuss results during breaks.
- If the panel wants to send a particularly important message to a proposer, use the comments.

Orbit allocations

Cycle 24 Duration

- Cycle 24 will start on October 1, 2016 and end on September 30, 2017
- → Nominal 12 month cycle.

Cycle 24 Allocations

- 3400 orbits for GO (Large + Medium + Small)
 - 1,800 for Small proposals (panels)
 - 600 for Medium proposals (panels)
 - 1000 for Large/Treasury programs (TAC)
- TAC may recommend adjustments to the Small/Medium/Large split
- Orbit oversubscription is ~5:1, 7:1 and 6:1 for Small, Medium, and TAC, respectively. This does not include the Very Large (>350) proposals
- The TAC will recommend the orbit pool for Very Large proposals, should any Very Large proposal be accepted
- SNAP: ~ 1000 targets available across panels
 - (~1:4 of targets proposed)
- AR: no budget required in Phase 1

Orbit Allocation

based on a combination of orbit and proposal pressure

Panel	Small GO props	Small GO orbits	Medium GO props	Allocation
Sol. System	44	372	4	90
Planets 1	45	619	10	120
Planets 2	44	531	7	105
Stars 1	69	629	6	145
Stars 2	65	647	7	145
Stars 3	71	590	3	145
St. Pop. 1	44	519	6	105
St. Pop. 2	48	630	7	120
Galaxies 1	45	709	5	125
Galaxies 2	50	660	4	125
Galaxies 3	34	536	7	100
Blackholes1	49	683	5	128
Blackholes2	54	635	2	128
Cosmology1	44	682	12	120
Cosmology2	34	513	8	100
TAC	58	12163		1000

Questions????

- Please refer ALL policy questions to SPG staff!!!

After the TAC

- As usual, we welcome feedback on the TAC process
 - Can we improve it
 - What were the main shortcomings
 - Can we make it “faster”, “cheaper”, ”better”?
- We will send email to all TAC and Panel members requesting your views of the process

THANK YOU!!!!

- The TAC review is supported by 154 panelists
- 29 panelists from ESA member states
- ESA provides full funding for participation of ESA panelists
- Continuing partnership with ESA

Personnel & Logistics

Key STScI Staff

- Director's Office
 - **Ken Sembach** – Director
 - Jerry Kriss – Acting Deputy Director
- Science Mission Office.
 - **Iain Neill Reid** – SMO Head
 - **Claus Leitherer** – Head of Science Policies Group
 - **Andy Fruchter, Janice Lee, Jennifer Lotz, Lou Strolger** – SPG Astronomers
 - **Brett Blacker** – SPG Technical Manager
 - **Alisa Meizlish** – SMO Administrative Lead
 - **Sherita Hanna** – SPG Administrative Staff
 - **Martha Devaud** – SPG Administrative Staff
 - **Loretta Willers** – ESA Administrative Staff
- Hubble Mission Office
 - **Tom Brown** – HST Mission Office Head
 - **John MacKenty, Rachel Osten, Brad Whitmore** – Mission Office Scientists
- Operations & Engineering Division
 - **Denise Taylor** – Operation Planning Branch

Observers

- **Mike Garcia** - NASA
- **Daniel Evans** - NASA
- **Antonella Nota** – ESA
- **Jennifer Wiseman** – NASA

Panel Information

Panel	Panel Support	Panel Chair	Building	Room
Sol. System	Tony Roman	Paul Feldman	Muller	S321
Planets 1	Johan Mazoyer	Travis Barman	Muller	Cafecon
Planets 2	Tala Monroe	Boris Gaensicke	Muller	Boardroom
Stars 1	Marie Ygouf	Corrine Charbonnel	Bloomberg	511
Stars 2	Benjamin Gompertz	Neal Evans	Muller	G16H
Stars 3	Varun Baja	Doug Gies	Bloomberg	447
St. Pop. 1	Nick Earl	Sally Oey	Bloomberg	337
St. Pop. 2	Laura Watkins	Ata Sarajedini	Bloomberg	235
Galaxies 1	Amber Armstrong	Laura Ferrarese	Muller	112
Galaxies 2	Mia Bovill	Stephen Zepf	Muller	N420
Galaxies 3	Meredith Durbin	Pieter van Dokkum	Muller	JWST MOC
Blackholes1	Crystal Mannfolk	Dale Kocevski	Muller	224
Blackholes2	Deatrick Foster	Jenny Greene	Muller	G17D
Cosmology1	David Sahnou	Marusa Bradac	Bloomberg	475
Cosmology2	Catherine Martlin	John O'Meara	Muller	S322
TAC	Brett Blacker	Caty Pilachowski	Muller	Boardroom