

Cycle 22 results & Cycle 23 preparations

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SMO



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Outline

- Cycle 22
 - Summary of TAC results
 - Cycle 21 Ombuds report & procedural changes
 - Cycle 22 Ombuds report
- Gender statistics in Cycle 22
- Cycle 23
 - Schedule
 - Changes from Cycle 22
- Summary

Cycle 22 TAC results

Executive Summary

- GO Acceptance Rate: $\sim 1/4.4$ for proposals and $\sim 1/5.7$ for orbits
 - 15 of 97 Medium proposals accepted
- SNAP Acceptance rate: $\sim 1/7.3$ for proposals and $\sim 1/5$ for targets
- Regular AR Acceptance rate: $\sim 1/6$ for proposals
 - 4 Small and 15 Medium approved
- Theory Acceptance rate: $\sim 1/3$ for proposals
 - 11 Small and 14 Medium approved
- AR Legacy 2 of 10 accepted
- ESA acceptance fraction:
 - PIs 23.3% for proposals and 14.6% for orbits
 - ESA Cols are 29% of the total Cols
- 30% of program awarded to Large/Treasury Programs.
- Joint programs
 - 1 of 9 for Chandra, 3 of 14 for NOAO, 1 of 4 for NRAO, 2 of 9 for XMM
 - No Spitzer (0 of 3)

Summary Results

<u>Proposals</u>	<u>Requested</u>	<u>Approved</u>	<u>% Accepted</u>	<u>ESA Accepted</u>	<u>ESA % Total</u>
General Observer	884	208	23.5%	47	22.6%
Snapshot Archival Research	51	7	13.7%	3	42.9%
AR Legacy	9	3	33.3%	-	
Theory	78	26	33.3%	-	
<u>Total</u>	<u>1134</u>	<u>263</u>	<u>23.2%</u>	<u>50</u>	23.3%
Primary Orbits	19900	3707	18.6%	540	14.6%

ESA Orbit % doesn't include 480 Ppar Orbits/Proposals is GO/Snap only
1 Approved AR Legacy is also a Theory Proposal
AR Legacy doesn't include Ely Proposal

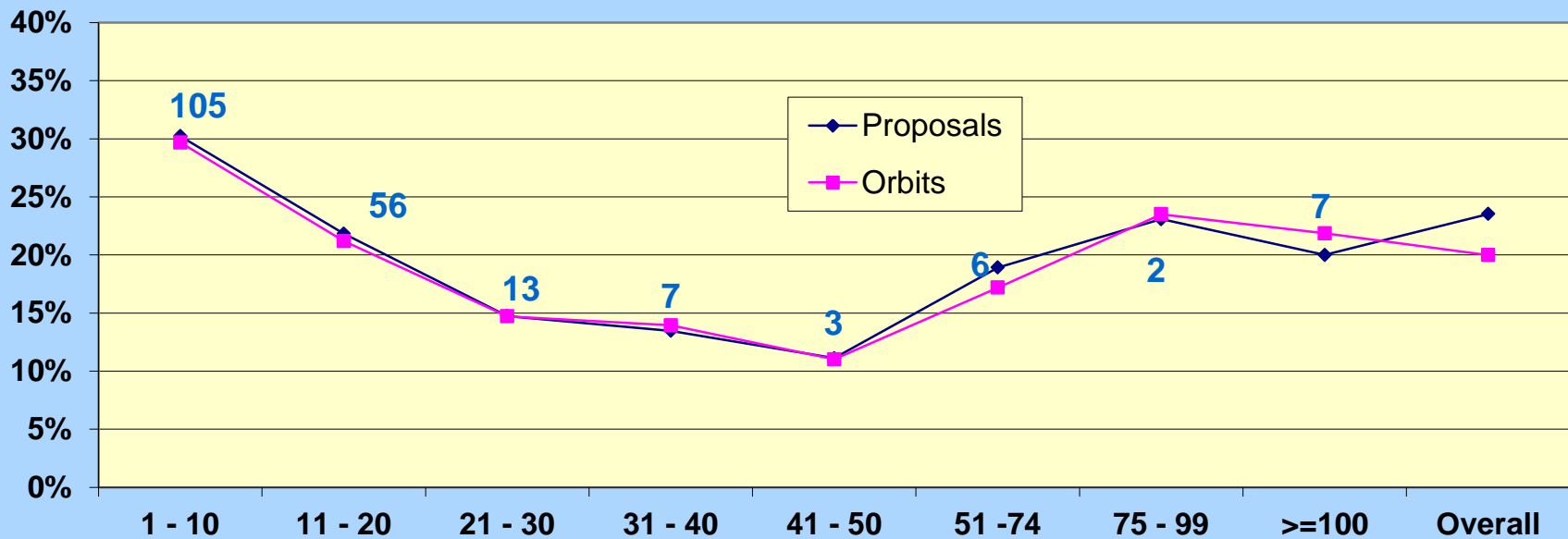
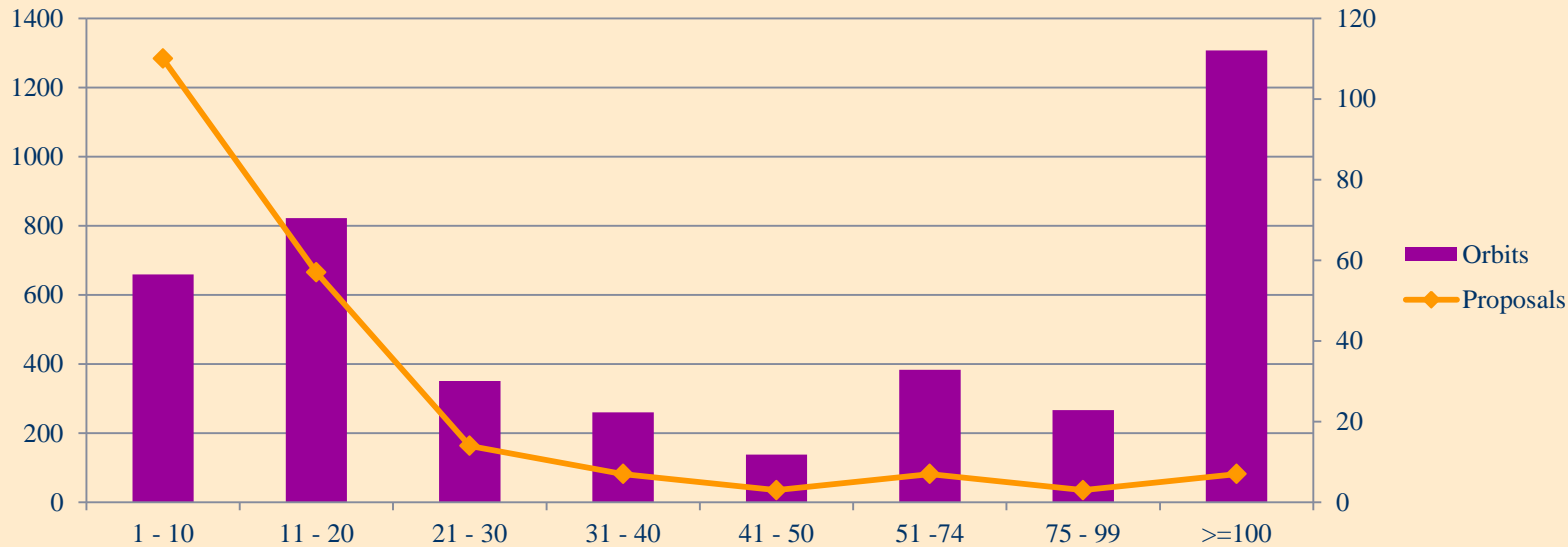
Medium Programs Recommended by the TAC and Panels

ID	First Name	Last Name	Resources	Institution	Title
0622	Marc	Buie	40	Southwest Research Institute	Observations of the Pluto System During the New Horizons Encounter Epoch
0628	Marcella	Carollo	43	Eidgenossiche Technische Hochschule (ETH)	The star-formation histories within clumpy disks at $z \sim 2.2$
0277	Sara	Ellison	52	University of Victoria	Feeding and feedback: The impact of AGN on the circumgalactic medium.
0773	Ryan	Foley	36	University of Illinois at Urbana - Champaign	Understanding the Progenitor Systems, Explosion Mechanisms, and Cosmological Utility of Type Ia Supernovae
0572	Timothy	Heckman	49	The Johns Hopkins University	Measuring the Impact of Starbursts on the Circum-Galactic Medium
0031	Edward	Jenkins	46	Princeton University	Using ISM abundances in the SMC to Correct for Element Depletions by Dust in QSO Absorption Line Systems
0897	Adam	Muzzin	38	Sterrewacht Leiden	Resolved H-alpha Maps of Star-forming Galaxies in Distant Clusters: Towards a Physical Model of Satellite Galaxy Quenching
0712	Abi	Saha	60	NOAO	Establishing a Network of Next Generation SED standards with DA White Dwarfs
0994	Karin	Sandstrom	54	University of Arizona	A New View of Dust at Low Metallicity: The First Maps of SMC Extinction Curves
0030	Glenn	Schneider	40	University of Arizona	Decoding Debris System Substructures: Imprints of Planets/Planetesimals and Signatures of Extrinsic Influences on Material in Ring-Like Disks
0577	Daniel	Stern	40	Jet Propulsion Laboratory	Clusters Around Radio-Loud AGN: Spectroscopy of Infrared-Selected Galaxy Clusters at $z > 1.4$
0317	Jonathan	Tan	18 + 18 in Cycle 24	University of Florida	Kinematics of a Massive Star Cluster in Formation
1142	Nicolas	Tejos	53	University of California - Santa Cruz	Characterizing the cool and warm-hot intergalactic medium in clusters at $z < 0.4$
1064	Daniel	Weisz	54	University of California - Santa Cruz	Completing the Census of Isolated Dwarf Galaxy Star Formation Histories

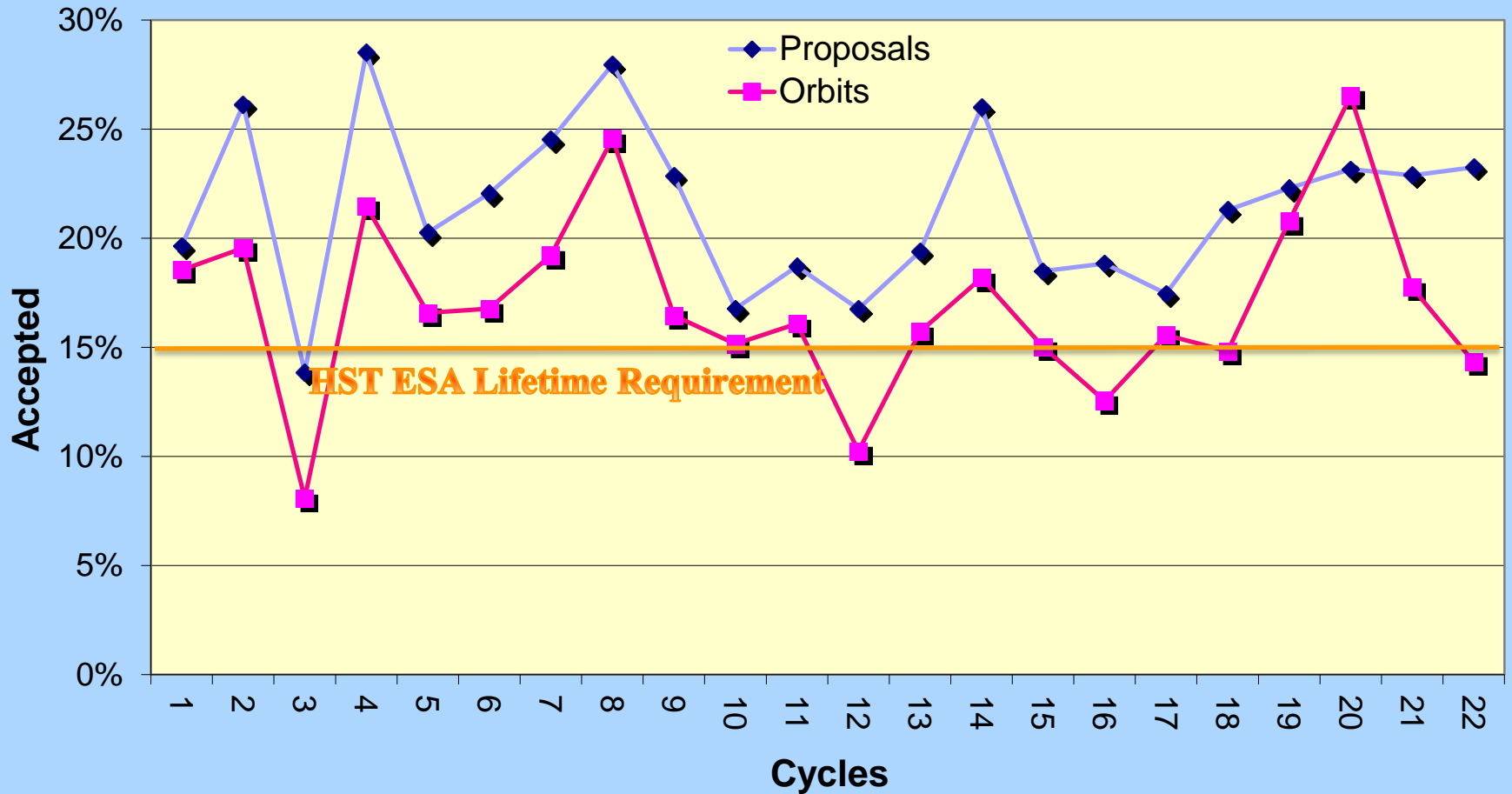
Programs Recommended by the TAC

ID	First Name	Last Name	Resources	Institution	Title
0354	Bjoern	Benneke	124	California Institute of Technology	Exploring the Diversity of Exoplanet Atmospheres in the Super-Earth Regime
0877	Gary	Ferland	AR Legacy/Theory	University of Kentucky	What AGN reverberation maps tell us: plasma simulations of dense accreting gas
0647	Morgan	Fouesneau	AR Legacy	University of Washington	A Legacy Magellanic Clouds Star Clusters Sample for the Calibration of Stellar Evolution Models
0015	Kevin	France	125	University of Colorado at Boulder	The MUSCLES Treasury Survey: Measurements of the Ultraviolet Spectral Characteristics of Low-mass Exoplanetary Systems
0003	Wendy	Freedman	132	Carnegie Institution of Washington	CHP-II: The Carnegie Hubble Program to Measure H_0 to 3% Using Population II
0860	Michael	Gregg	450 Snap Targets	University of California - Davis	Completing the Next Generation Spectral Library
0726	Mariska	Kriek	AR Legacy	University of California - Berkeley	Maximizing the Impact of CANDELS: Rest-frame Optical Spectroscopy of 2000 Galaxies at $1.4 < z < 3.8$
0993	Sangeeta	Malhotra	160	Arizona State University	The Faint Infrared Grism Survey (FIGS)
0598	Pascal	Oesch	132	Yale University	The GOODS UV Legacy Fields: A Full Census of Faint Star-Forming Galaxies at $z \sim 0.5-2$
0694	Saul	Perlmutter	87	University of California - Berkeley	See Change: Testing time-varying dark energy with $z > 1$ supernovae and their massive cluster hosts
0840	Massimo	Robberto	52	Space Telescope Science Institute	The Orion Nebula Cluster as a Paradigm of Star Formation
0158	Evan	Skillman	81	University of Minnesota - Twin Cities	Is the First Epoch of Star Formation in Satellite Galaxies Universal? - Part II
1155	John	Spencer	154	Southwest Research Institute	A Kuiper Belt Object for the New Horizons Mission
0136	Michele	Trenti	480 Pure Parallel	University of Cambridge	Bright Galaxies at Hubble's Detection Frontier: The redshift $z \sim 9-10$ BoRG pure-parallel survey
0747	Todd	Tripp	99	University of Massachusetts - Amherst	The COS Absorption Survey of Baryon Harbors (CASBaH): Probing the Circumgalactic Media of Galaxies from $z = 0$ to $z = 1.5$

Cycle 22 accepted programs

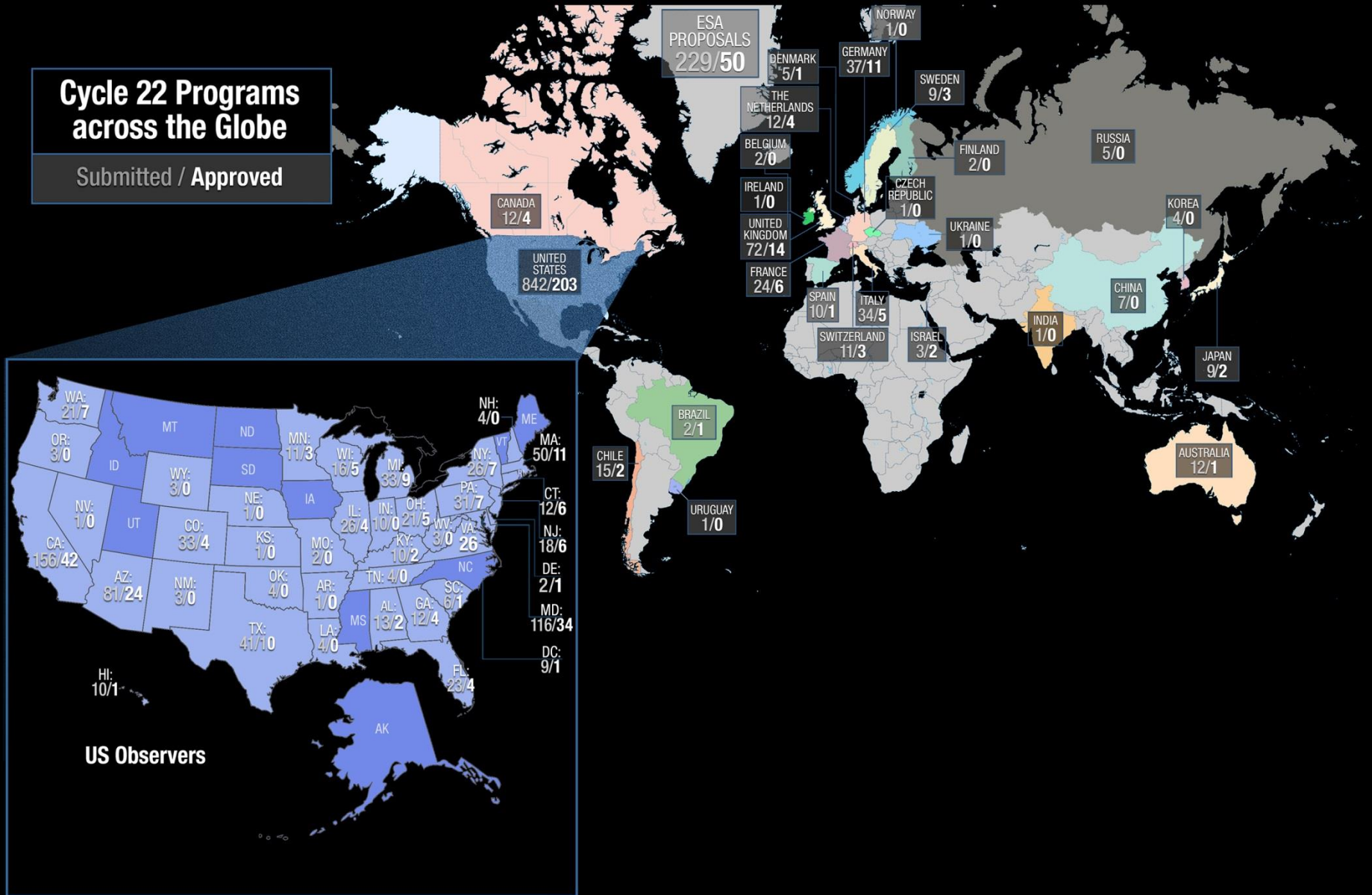


ESA Acceptance

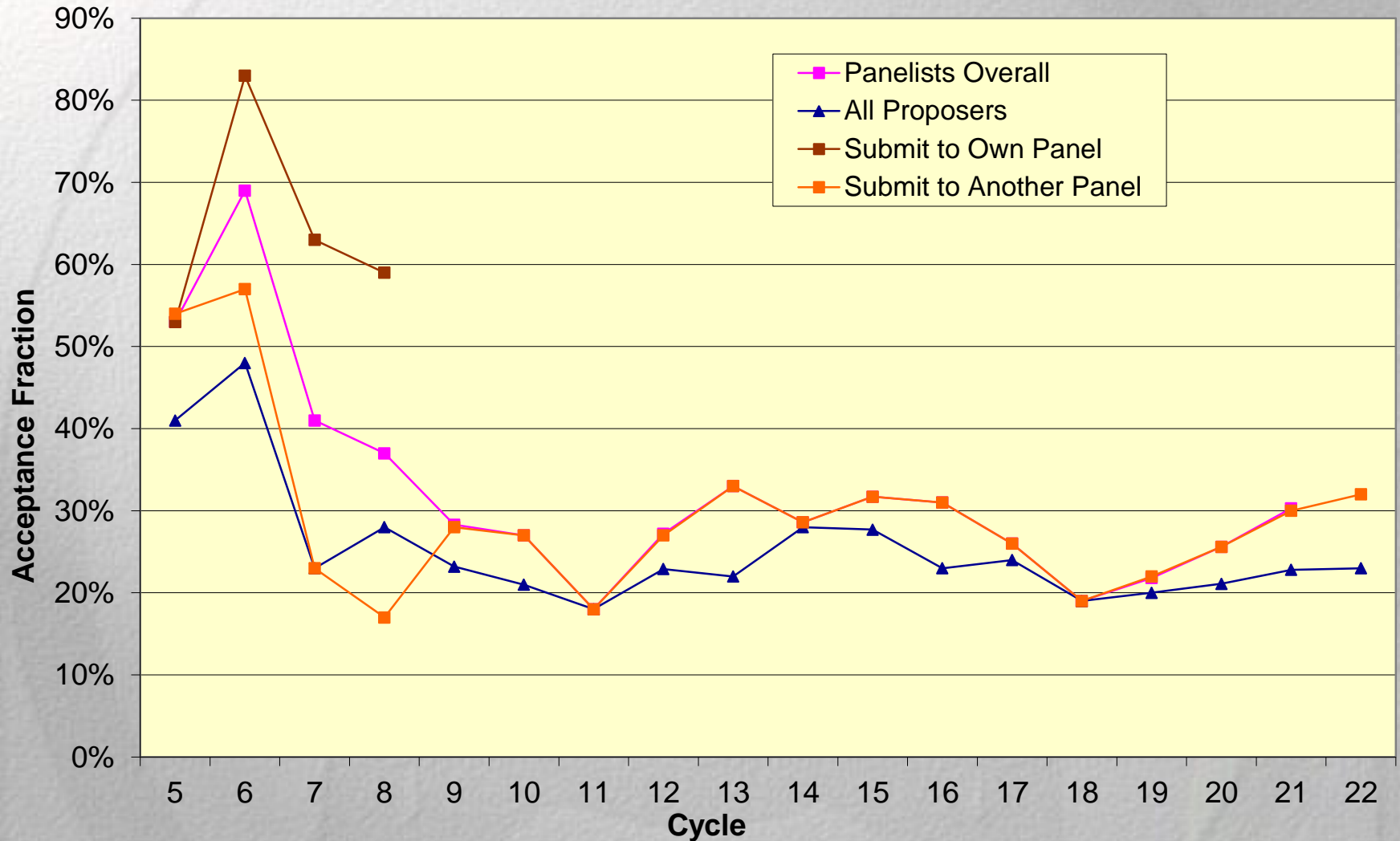


Cycle 22 Programs across the Globe

Submitted / Approved

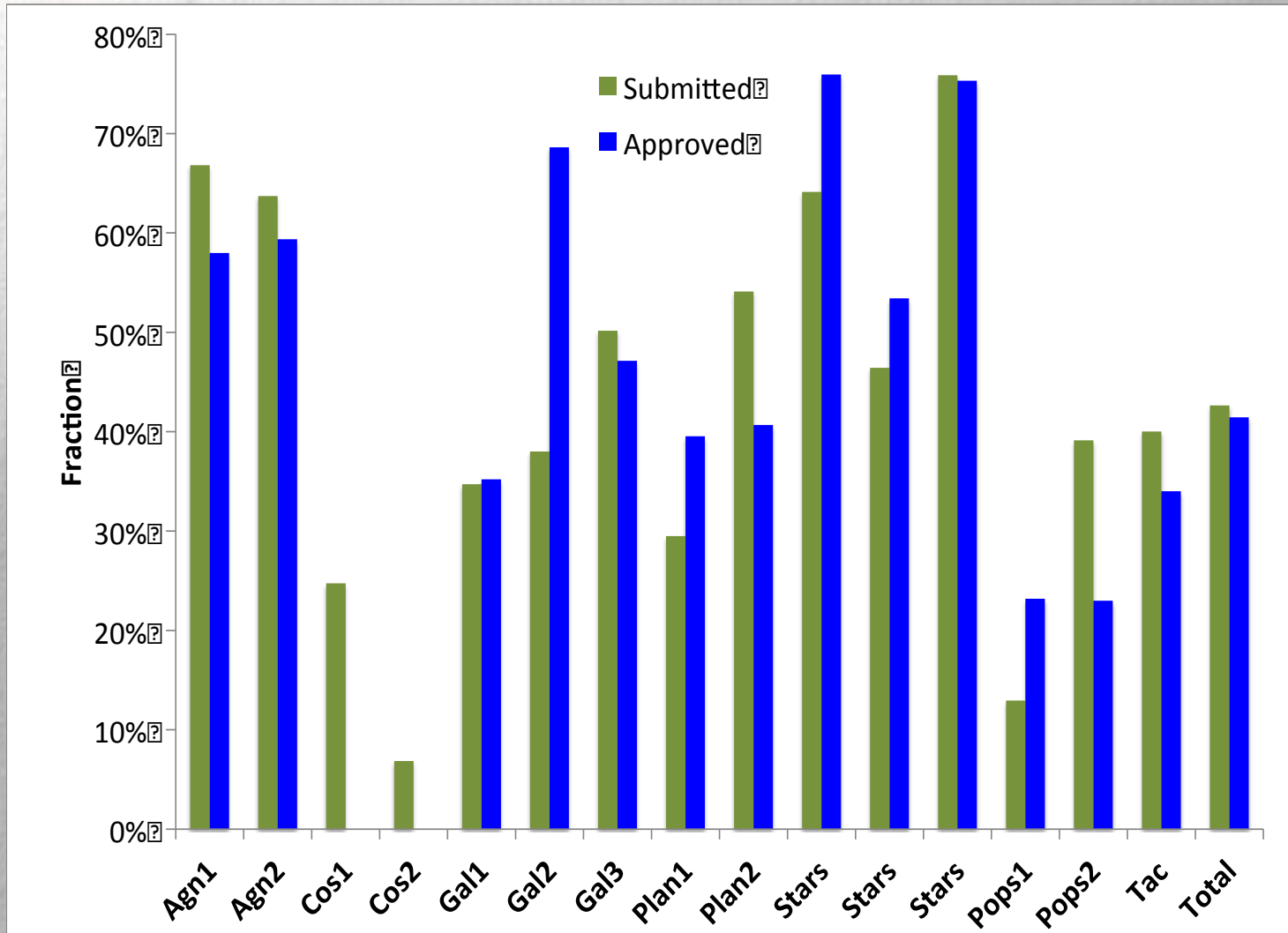


Panelist acceptance rate

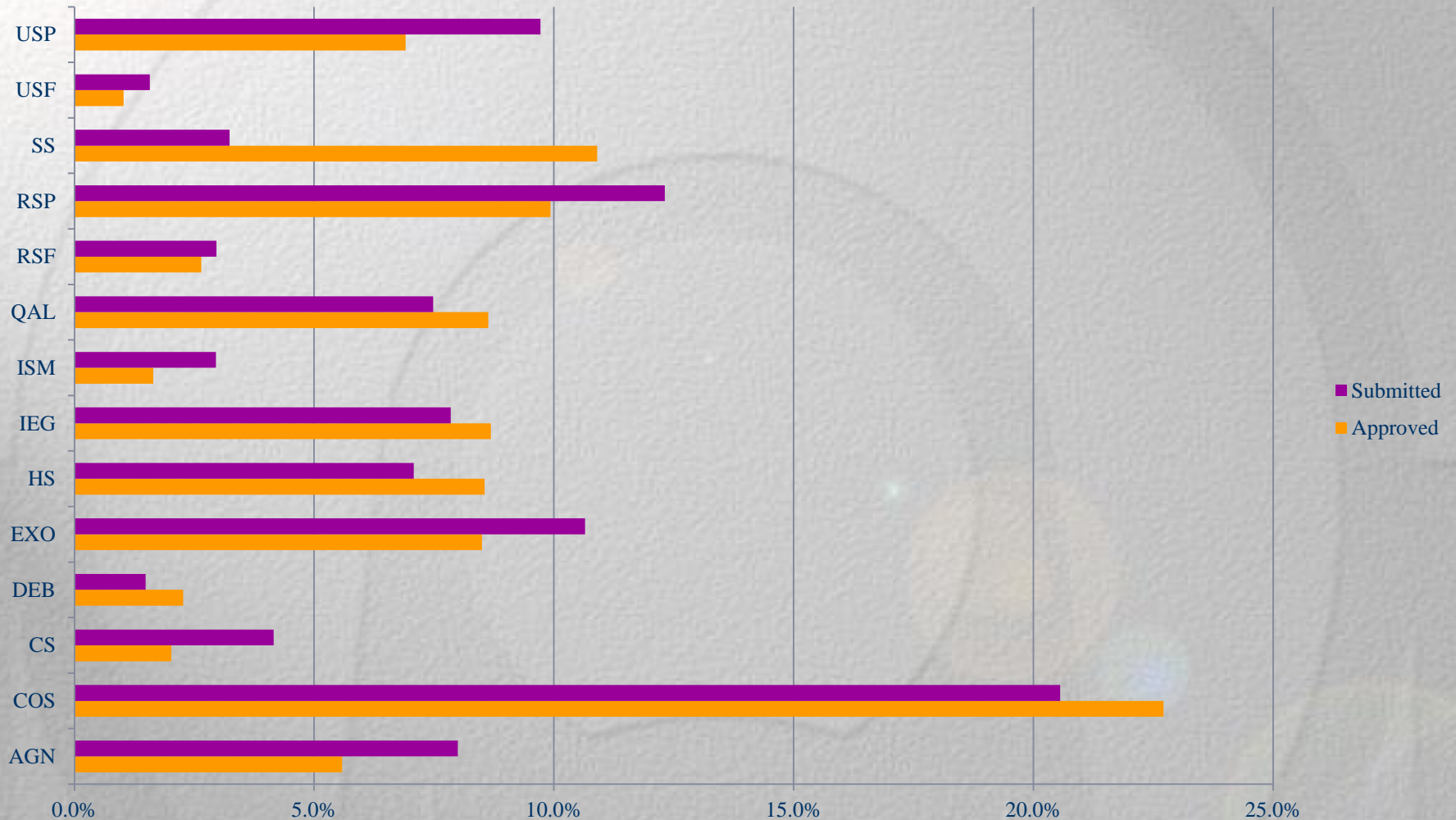


UV Initiative

Target 40% panels, 50% TAC
Achieved 39% overall
16/47 ARs, 83/208 GOs



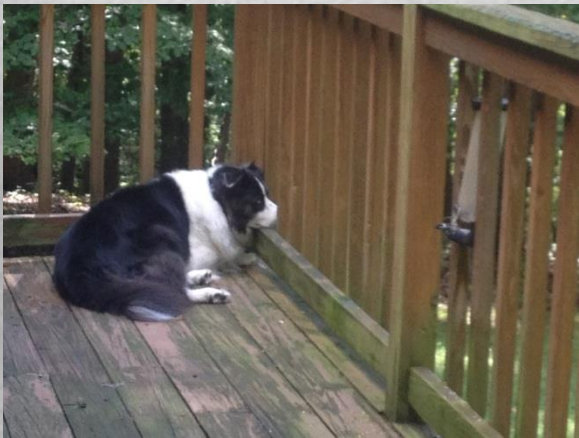
Science categories



Solar System Science

- KBOs
 - New Horizons search program (154 orbits + 40 DD)
- Europa
 - Roth, medium program (58 orbits)
- OPAL - Outer Planets Atmosphere Legacy program
 - Long-term DD program monitoring Jupiter, Uranus & Neptune [add Saturn post-Cassini] (29 → 41 orbits)
 - 2 rotations/planet
 - Probes the distribution of wind speeds with height in the atmosphere & potential energy sources
 - Maintain program throughout HST's remaining lifetime
 - See HST 2020 vision for further discussion

Cycle 21 TAC Ombudsperson report & Procedural Changes



Why appoint an Ombudsperson?

- Each TAC cycle, a (small) number of issues are raised by community members regarding the outcome of the review
- To provide an independent assessment of such issues, the Director has created the position of TAC Ombudsperson, who is charged with
 - Contacting individuals in the community prior to the meeting
 - Observing the TAC process and providing an independent assessment of fairness and identify areas for potential improvement
 - Assess the role of TAC Ombudsperson
- Dr Fred Lo, former Director of NRAO, agree to serve as the Ombudsperson for Cycle 21
- The TAC chair was informed of Dr. Lo's appointment prior to the TAC meeting
- TAC members were informed in the TAC orientation presentations
- Dr. Lo attended the latter half of the meeting and his final report was submitted on June 7



The Cycle 21 Ombuds Report

Findings:

- No evidence for “egregious bias (scientific or otherwise) in the discussions of the scientific merit of proposals...”
- High workload for panel chairs
 - Limited workload to managing panels in Cycle 22
- The balance of seniority for panel members is skewed towards more junior researchers
 - Moving the TAC to early June to reduce overlap with final exam week
- Conflict of interest can significantly reduce the number of panelists with relevant expertise who are eligible to vote on a proposal
 - Plan to acquire expert reviews for TAC proposals in Cycle 22
- “An uneasy feeling” about the triage process
 - Statistics show that few panels approve proposals close to the triage line

Procedural changes – workload

- Chairs ran the panel meetings and did not vote on regular proposals
 - Generally went smoothly and the reduction in workload was appreciated
- We reduced the number of reviewers submitting preliminary grades for each proposal
 - Typically 6 for regular proposals, 9-10 for Large
 - All un-conflicted panelists discuss and vote on proposals at the meeting itself
 - Most panelists appreciated the reduced workload
- We moved up the deadlines for submitting preliminary grades to ~10 days before the meeting
 - This allowed us to distribute the triage lists for each panel prior to the meeting, so panelists could identify which additional proposals they needed to review before the meeting
 - Limited feedback, but shortening the review period did not appear to be a significant issue for panelists

Procedural changes – written reviews

- 3 written reviews were requested for each Large/Treasury program
 - Aim is to provide additional expertise to mitigate the impact of conflicts
 - Some reviews were requested from panelists
 - We solicited 210 reviews and received 193
- Reviewers were asked to address 4 questions
 - What are the major and minor strengths of the proposal?
 - What are the major and minor weaknesses of the proposal?
 - How timely is the proposed science?
 - What impact will the results have on the subject area?
- What went well
 - TAC members generally found the reviews useful
- What could have gone better
 - Clearer explanation of how we want the TAC to use the reviews
 - Deadline for receiving the reviews was May 26 (Memorial Day)
 - Many reviewers needed to be reminded → effective deadline was May 30
 - In some cases, the reviews became available too late to help in assessing the preliminary grades for proposals

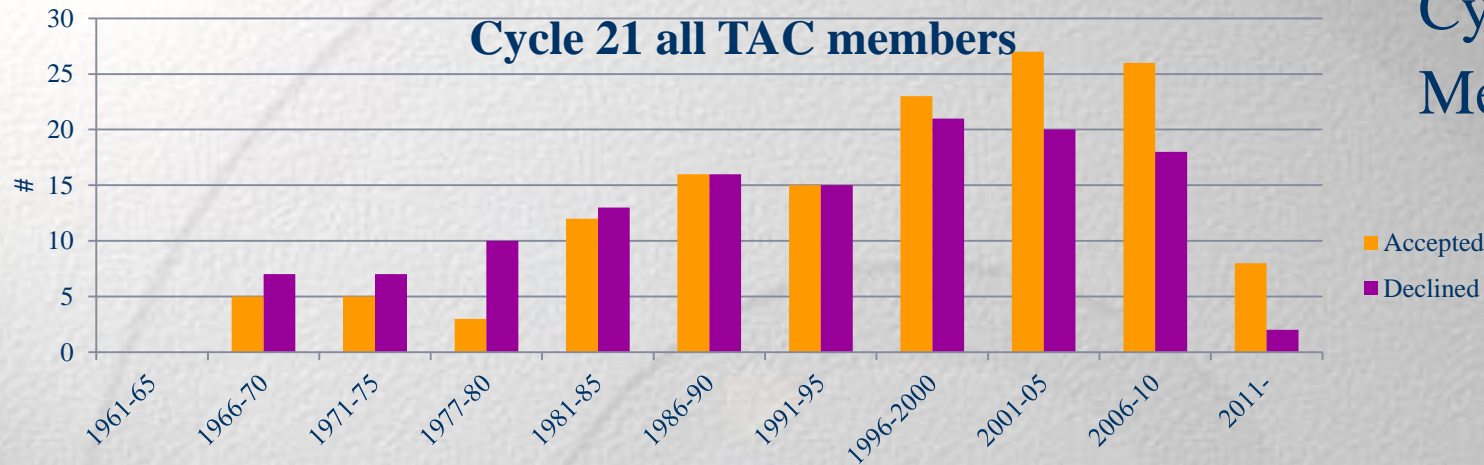
Procedural changes – medium proposals (1)

- Medium proposals – the review process in Cycle 21
 - Medium proposals are distributed to the panels
 - The panels rank the mediums with the regular proposals
 - Medium proposals above the orbit cutoff are promoted for further discussion by the TAC
 - The aim is to give a single panel a view of the overall science cases and set an appropriate balance
 - The challenge is that only ~7% of the promoted proposals pass through a single panel, so each TAC member is faced with reviewing ~20-25 new proposals in a very limited time
 - We attempted to adjust the Cycle 21 process to give the TAC members earlier access to these proposals

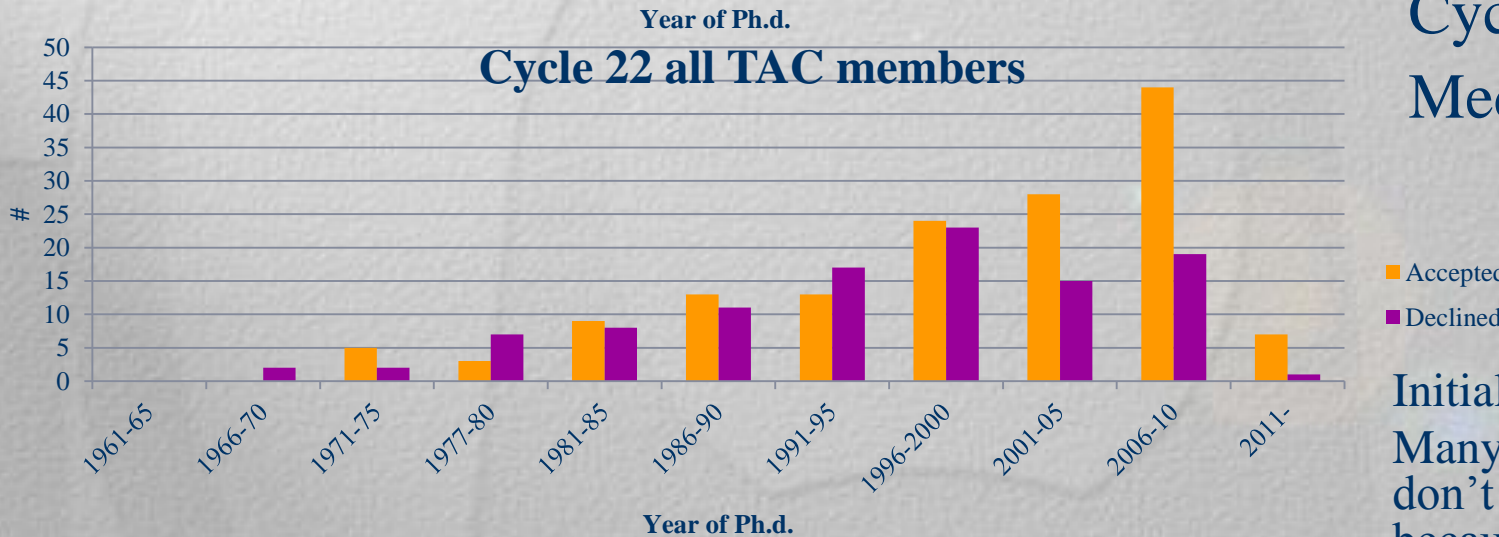
Procedural changes – medium proposals (2)

- In Cycle 22, we accelerated the process for getting the medium proposals to the TAC members
 - Using the panel triage lists, we identified the top 30 medium proposals and gave TAC members access to those proposals ~before the meeting
 - 24 of those proposals were promoted by the panels
 - We finalised the list of medium proposals by Tuesday evening and adjusted the review list for the TAC
 - The final list was circulated to all TAC members by Wednesday morning; the mediums were discussed on Friday.
- What worked
 - We were able to circulate the final list faster than in Cycle 21
- What didn't work
 - The panels were more enthusiastic/optimistic than in Cycle 21
 - 28 promoted for discussion versus 20
 - TAC members still had only a limited time to try to assess a wide range of science areas
 - Tendency to rely on experts and defer to the panels in the relative rankings

Panel seniority



Cycle 21:
Median - 1999



Cycle 22:
Median - 2002

So far this year, 6/18 acceptances for chairs

Initial bias:
Many senior people
don't get asked
because we've been
turned down so often

Cycle 22 TAC Ombuds Report

Dr. Fred Lo agreed to attend the Cycle 22 TAC to provide feedback on the procedural changes made in response to his Cycle 21 report. He attended the meeting from June 11-13 and was present throughout most of the (super-)TAC review.

His report was submitted to the Director on August 5 & has been circulated to the STUC.

Key excerpt:

:Towards the end of the TAC meeting, the ombudsperson also surveyed the TAC members by posing the following questions:

- Did the TAC members have sufficient time to review the large proposals?
- Were the external reviews useful?
- Was there enough time to handle the Medium proposals?
- Did TAC members not expert in the area of a proposal feel comfortable, given the current process, with how they grade? “

Cycle 22 TAC Ombuds Report

TAC Responses:

1. The general sense from the responses was that the TAC could manage the large proposal demands with the 12-hour days during the week. The TAC members found the remote reviews helpful, but pointed out the timeliness of the reports was important, as sometimes only 2 out of 3 reviews were received.
2. The TAC generally felt there was insufficient time for them to review the medium proposals adequately for the final merging process, under the current arrangement. Some TAC members made the suggestion for the future merging of medium proposals that there could be two parallel sessions of the TAC by grouping appropriate science areas. [...]
3. The TAC members felt comfortable in grading proposals not in their expertise area, under the current process. My observation was that the seniority and accompanying experience of the TAC helped in this regard.

Conclusion

- My observations of the Cycle 22 TAC process indicated to me that the changes made since Cycle 21 helped to improve the process for the large proposals. The process for the medium proposals still needs some adjustments, in order to make the task of the TAC more manageable in terms of having sufficient time to consider the medium proposals before the final merging process.

TAC Chair feedback

“The fact that more than 20 years into the mission Hubble still generates such high proposal pressure and achieves a dominating scientific impact is testament to the continuous improvements that NASA, the institute staff, and users bring to the observatory. “

“The proposals were very nearly all of excellent quality and the panels were hard pressed to select the best, although, as with all panels, they were never at a loss for words. Nearly all of the proposals above the triage line were worthy of time on the telescope.”

“The program selected by the TAC is scientifically diverse; it ranges from the outer solar system to redshifts beyond 7 with plenty of core astrophysics in between. There is a good balance between high-risk high-return programs (e.g. New Horizons), classical astronomy (RR Lyrae stars, stellar populations), and legacy-value surveys (near-IR map of the Orion cluster). “

“The practice of referring to proposals by number rather than PI name had a subtle, but powerful, impact on the dynamics of the process. I encourage you to make this the norm going forward. Simply removing the names from the cover page started the process off on the right foot.”

.”Excusing the chairs from the voting is a positive step. It both allows them to focus on process and removes a low signal-to-noise element from the vote pool. I certainly found this helpful and the panel chairs were unanimous in this sentiment. Submission of preliminary grades well in advance allowed the triage process to achieve its goal of focusing reviewers’ energy on the proposals most likely to succeed.”

“The “medium” class of proposals continues to be the problem child of the TAC process....some angst... In the end the natural selection process resulted in the large and medium proposals providing a diverse and complimentary suite of science programs without any post-facto engineering of the outcome

Cycle 22 Gender statistics

Cycle 21 & earlier cover sheet

Hubble Space Telescope

PDF file is 0045.reid

45
Cycle 15 SNAP Proposal

A search for planetary-mass companions to the nearest L dwarfs - completing the survey

Principal Investigator: Dr. Iain Neill Reid

PI name

Institution: Space Telescope Science Institute

Electronic Mail: inr@stsci.edu

Scientific Category: COOL STARS

Scientific Keywords: DETACHED BINARIES, VERY LOW MASS STARS AND BROWN DWARFS,
STAR FORMATION

Instruments: NICMOS

Proprietary Period: 12

Number of targets: 30

Investigators:

PI & co-Is – first names & surname

	Investigator	Institution	Country
PI	Dr. Iain Neill Reid	Space Telescope Science Institute	USA/MD
CoI	Dr. Kelle L. Cruz	American Museum of Natural History	USA/NY
CoI	Dr. Adam J. Burgasser	Massachusetts Institute of Technology	USA/MA
CoI	Dr. Michael C. Liu	University of Hawaii	USA/HI

Number of investigators: 4

Cycle 22 format

PDF file is 1155.pdf

Hubble Space Telescope

Cycle 22 GO Proposal

1155

A Kuiper Belt Object for the New Horizons Mission

Scientific Category: SOLAR SYSTEM

Scientific Keywords: Astrometry, Kuiper Belt Objects, Support of NASA Planetary or Exoplanetary Missions

Instruments: WFC3

Proprietary Period: 0

Proposal Size: Large

Orbit Request

Prime

Parallel

J Spencer : A Kuiper Belt Object for the New Horizons Mission

Investigators:

	Investigator	Institution	Country
PI&	J Spencer	Southwest Research Institute	USA/TX
Col	H Weaver	The Johns Hopkins University Applied Physics Laboratory	USA/MD
Col	S Benecchi	Planetary Science Institute	USA/AZ
Col	S Stern	Southwest Research Institute	USA/TX
Col	M Buie	Southwest Research Institute	USA/TX
Col	A Parker	University of California at Berkeley, Dept. of Astronomy	USA/CA
Col	J Kavelaars	National Research Council of Canada	CAN
Col	K Noll	NASA Goddard Space Flight Center	USA/MD
Col	M Showalter	SETI Institute	USA/CA
Col	D Bornecamp	Space Telescope Science Institute	USA/MD
Col*	J Petit	Observatoire de Besancon	FRA
Col	C Fuentes	Northern Arizona University	USA/AZ
Col	D Tholen	University of Hawaii	USA/HI
Col	M Belton	National Optical Astronomy Observatory, AURA	USA/AZ

Number of investigators: 14

* ESA investigators: 1

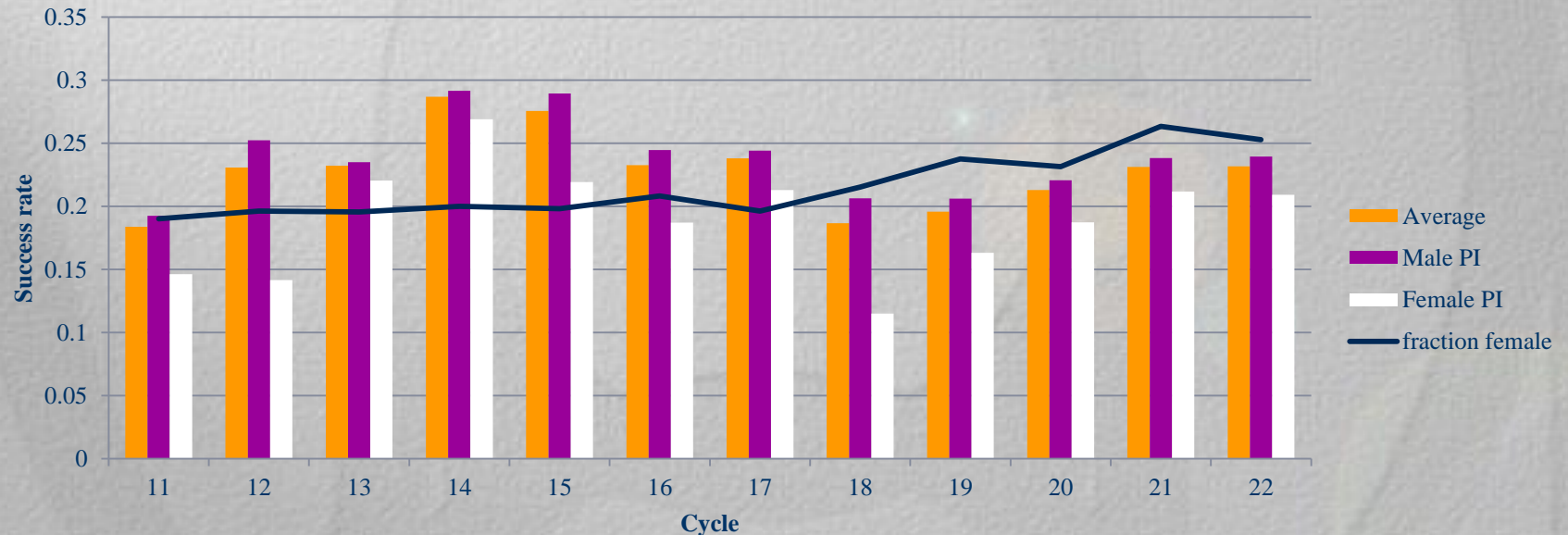
& Phase I contacts: 1

No PI name

Initials, no first names

Cycle 22 results

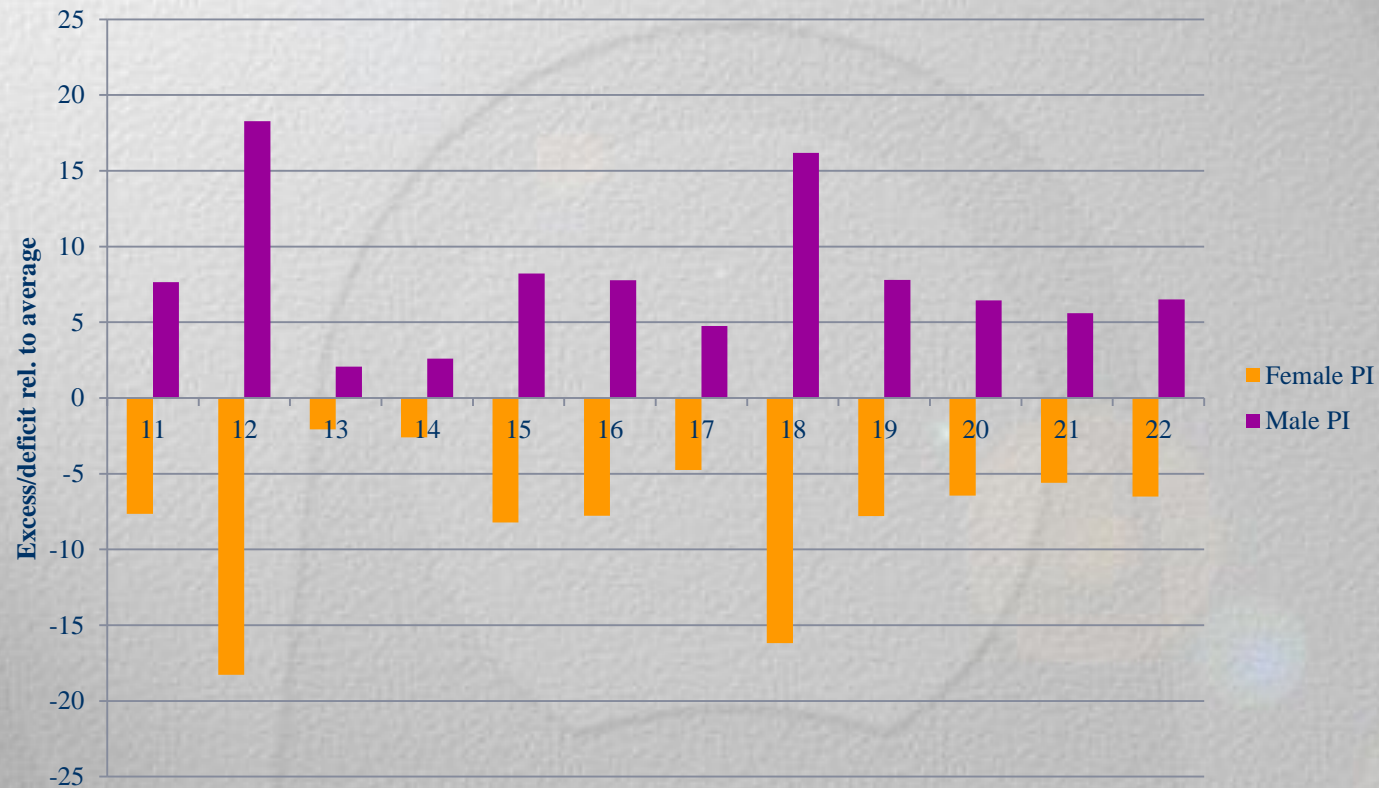
- 1135 total proposals including 287 with female PI
 - 25.3% → down by 1% from Cycle 21
- Results after Director's review
 - 263/1135 recommended for acceptance: 23.2%
 - 203/848 with Male PI: 23.9%
 - 60/287 for female PI: 20.9%



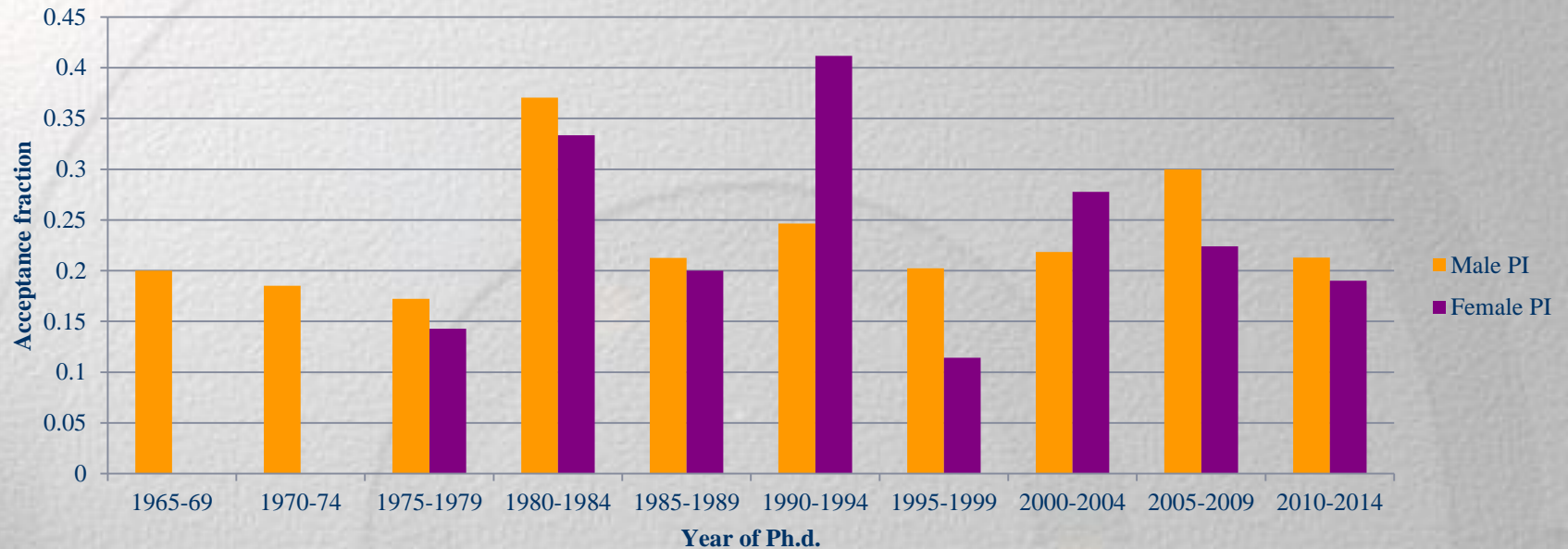
STUC: 16 October 2014

Cycle 22 results

- Final results comparable with Cycle 21



Statistics by Seniority



Phd pre-2000: Male $85/362 = 23.5\%$ Female $17/84 = 20.2\%$

Phd post-2000: Male $117/485 = 24.1\%$ Female $44/203 = 21.7\%$

Statistics for larger programs

	Total	Female PI	Male PI	% F	% M
Medium					
Submitted	97	24	73	24.7%	75.3%
Approved	15	3	12	20%	80%
Large					
Submitted	80	14	56	20%	80%
Approved	14	2	12	14.3%	21.4%

Medium proposals:

Statistics comparable with overall results

Large proposals:

Fewer proposals submitted and lower success rate



Cycle 23 preparations

Schedule for Cycle 23

- **Jan 7, 2015** **Call for Proposals release**
- **April 10** **Phase I deadline**
- **April 21** **External reviews solicited**
- **April 28** **Download available for panelists**
- **May 14** **External review deadline**
- **May 27** **Preliminary grades**
- **June 8 - 10** **Panels meet**
- **June 10 - 12** **TAC meets**
- **June 18** **Director's Review**
- **~June 24** **Notifications**
- **July 15** **Phase II deadline**

External Reviews

Purpose:

- To provide additional expert input for TAC reviewers on proposals that may be far from their area of expertise

Issues:

- The Cycle 22 schedule only allowed 1 week between the review deadline and the deadline for submitting preliminary grades
- The TAC reviewers were not clear on how the reviews should be used to aid preliminary grading

Resolution:

- The Cycle 23 schedule moves the review deadline earlier by ~1 week
- TAC members will be advised that they do not required to use the external reviews for preliminary grading; however, they will be made available to supplement their own expertise.

Medium proposals: review

The 2-stage medium proposal review scheme was designed to allow the panels to identify the highest-ranked proposals; the TAC looks at the overall science balance & applies a down-select to the promoted proposals.

- Problem: TAC members do not have time to carry out more than a cursory review of most promoted proposals.

Solution:

- In Cycle 23, the primary decisions will be left with the panels.

Medium proposals: Cycle 23

We assume that we will allocate n medium proposals in Cycle 23, where $n \sim 15$

Based on proposal pressure, we will assign quotas to each set of mirror panels e.g. Cycle 22 stats -

Panels	Proposals subm.	Fraction	Fraction * 15	Integer allocation	Cycle 22 results
AGNQSO	13	0.13	1.95	2	1
Cosmology	15	0.15	2.25	2	4
Galaxies	23	0.23	3.45	3	4
Planets	14	0.14	2.1	2	3
Stars	11	0.11	1.65	2	2
Stpops	22	0.22	3.3	3	1

Medium proposals: procedure(1)

- Panels will be informed of the nominal quotas during orientation
 - Encouraged to factor that into their decisions on promoting proposals
- Panels review the medium proposals with the regulars
 - Complete review by Tuesday evening
- Medium proposals above the cutoff are promoted for further discussion *by the full set of mirror panels*
 - i.e. in Cosmology, the COS1 panel will review the promoted mediums from COS2 and vice versa
- The panels receive the “new” proposals on Tuesday evening
- The panels grade the “new” proposals on Wednesday morning
 - Standard rules for conflicts
- The panels can review their ranked list for the mediums and adjust
 - Standard rules for conflicts in pairwise comparisons

Medium proposals: procedure(2)

- The ranked lists from the mirror panels will be combined to give a final ranked list
- The panels will be informed of the final ranking by late Wednesday morning
 - Panels still have the option of using their own orbits to support medium proposals that are not selected
- The TAC will be informed of the recommendations for medium proposals

Medium proposals: procedure(3)

Potential advantages of revised procedure

1. Expertise – primary decisions rest with the panelists who have the most collective expertise
2. Workload - in each mirror panel set, panelists should be faced with reviewing only 2-4 new proposals
3. TAC discussions – the TAC will only review medium proposals in the context of the science balance → more time for discussion of large programs & the overall science balance regular/medium/large

Potential challenges

1. Distribution - the “new” proposals will need to be distributed and reviewed by hand → too complex to reconfigure web appraisal tool
2. Conflicts – medium proposals are distributed to minimise conflicts by panel members, including chairs; combining the results from separate panels will require particular care in discussions of comparative ranking of proposals.

Medium proposals

Proposal format:

- Current structure limits the scientific justification to 3 pages for regular & medium proposals, 6 for Large & Treasury
 - Some concerns on the constraints for medium proposals, given their larger scope
- We propose increasing the limit to 4 pages for medium proposals

Mitigating unconscious bias

Proposal format:

- Retain format for title page and program files
- Revert to first names on list of investigators

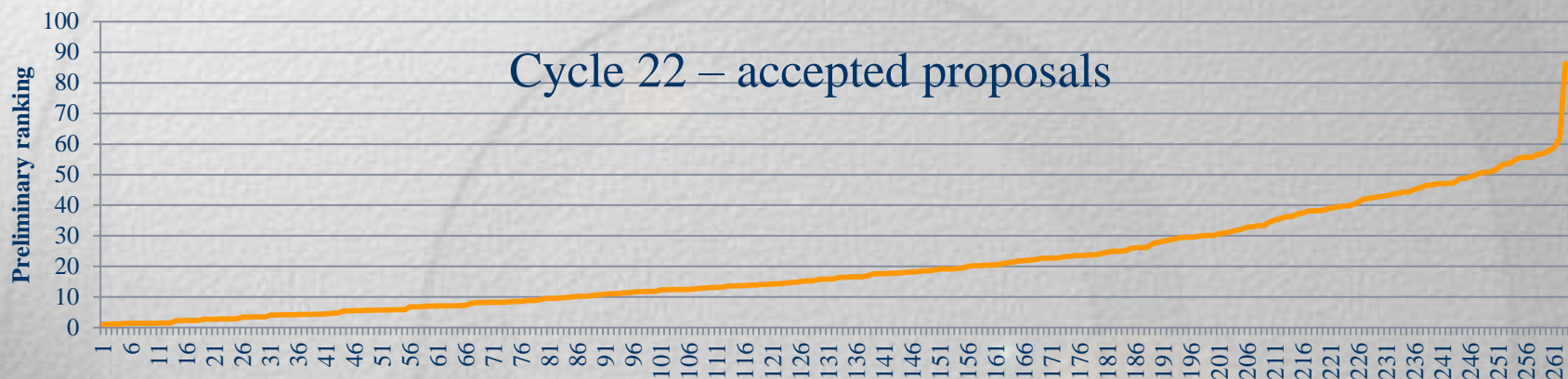
TAC orientation

- Emphasise the primary proposal assessment criteria (#6.2 in CP)
- Current overall criteria:
 - The scientific merit of the program and its contribution to the advancement of scientific knowledge
 - The program's importance to astronomy in general.
 - The extent to which the expertise of the proposers is sufficient to assure a thorough analysis of the data
 - The evidence for a coordinated effort to maximise the scientific return from the program
 - A demonstration of how the results will be made available to the community [drop?]
 - A demonstration of timely publication of the results of any previous programs
- Numerous additional criteria (see backup charts), e.g.
 - HST's unique capabilities are required for the program.

Mitigating unconscious bias

Workload:

- Unconscious bias is most prevalent when reviewers are pressed for time
 - It's easier to resort to shortcuts in make decisions
- How can we give the reviewers more time?



In Cycle 22, 14 out of 263 accepted proposals had preliminary ranks $50 < p < 60\%$

In Cycles 20 & 21, 16 accepted proposals had preliminary ranks $50 < p < 60\%$

Triage at 50% reduces each panel's workload by $1/6^{\text{th}}$, or ~10 proposals

We have discouraged triage resurrections in past TACs

→ We will mitigate that advice to suggest that panelists raise for discussion proposals that they are enthusiastic about.

Summary:

We have presented

- Results from the Cycle 22 TAC process including a summary of the Ombuds report
- Update on PI gender statistics for HST programs
- Proposed modifications for Cycle 23

We invite comments from the STUC on the following:

- The use of external reviews
- The proposed revisions to the assessment process for Medium proposals
- Adjustments to the proposal format
- Appropriate selection criteria to highlight at the TAC orientation
- Adjust the triage cutoff from preliminary grades to 50%

Backup

The role of the Ombudsperson

The Charter

- The Telescope Allocation Committee (TAC) Ombudsperson is charged by the STScI Director to investigate issues and complaints brought forward by members of the astronomical community with regard to the allocation of telescope time by a TAC process supervised by STScI. The Ombudsperson is encouraged to make direct contact with community members to obtain further information on specific issues as the need may arise. Any such interactions should be treated as confidential.
- The Ombudsperson will observe the TAC process and consult with the STScI Director or designate to clarify any issues that might arise. S/he will conduct an independent assessment of the fairness of the process, and advise the Director on potential improvements that could be adopted for future TACs.
- In addition, s/he will provide the Director with an assessment of the utility of the role of “Ombudsperson” within the TAC process, and will advise on how frequently such a position might be incorporated in future TACs.
- The Ombudsperson will produce a report for the Director on the TAC process. The report will be made available to the community.
- Specific issues for HST Cycle 21: The Ombudsperson is asked to pay particular attention to discussions of proposals for Solar System, AGN, deep field and IGM research

6.2 Selection Criteria

Evaluations of HST proposals are based on the following criteria.

Criteria for all Proposals

- The scientific merit of the program and its potential contribution to the advancement of scientific knowledge.
- The program's importance to astronomy in general. This should be stated explicitly in the 'Scientific Justification' section of the proposal (see [Section 9.1](#)).
- The extent to which the expertise of the proposers is sufficient to assure a thorough analysis of the data.
- The evidence for a coordinated effort to maximize the scientific return from the program.
- A demonstration of how the results will be made available to the astronomical community in the form of scientific or technical publications in a timely manner.
- A demonstration of timely publication of the results of any previous HST Programs.

Additional Criteria for all GO and SNAP Proposals

- What is the rationale for selecting the type and number of targets? Reviewers will be instructed to recommend or reject proposals as they are and to refrain from orbit- or object trimming. Therefore, it is very important to justify strongly both the selection and the number of targets in your proposal, as well as the number of orbits requested.
- Why are the unique capabilities of HST required to achieve the science goals of the program? Evidence should be provided that the project *cannot* be accomplished with a reasonable use of ground-based telescopes (irrespective of their accessibility to the proposer).
- Is there evidence that the project has already been pursued to the limits of ground-based and/or other space-based techniques?
- What are the demands made on HST and STScI resources, including the requested number of orbits or targets, and the efficiency with which telescope time will be used?
- Is the project technically feasible and what is the likelihood of success? Quantitative estimates of the expected results and the needed accuracy of the data must be provided.

Additional Criteria for Large GO, Treasury GO, and Legacy AR Proposals

- Is there a plan to assemble a coherent database that will be adequate for addressing all of the purposes of the program?
- Will the work of the proposers be coordinated effectively, even though a large team may be required for proper analysis of the data?
- Is there evidence that the observational database will be obtained in such a way that it will be useful also for purposes other than the immediate goals of the project?

Additional Criterion for SNAP Proposals

- Willingness to waive part or all of the proprietary period. While this is not the primary criterion for acceptance or rejection, it can provide additional benefit to any proposal and will be weighed by the reviewers as such.

Additional Criterion for Calibration Proposals

- What is the long-term potential for enabling new types of scientific investigation with HST and what is the importance of these investigations?

Additional Criteria for all Archival Research Proposals

- What will be the improvement or addition of scientific knowledge with respect to the previous original use of the data? In particular, a strong justification must be given to reanalyze data if the new project has the same science goals as the original proposal.
- What are the demands on STScI resources (including funding, technical assistance, feasibility of data requests, archiving and dissemination of products)?
- Is there a well-developed analysis plan describing how the scientific objectives will be realized?
- Does the proposal provide a justification for the requested funds?

Additional Criteria for Treasury GO and Legacy AR Proposals

- What scientific investigations will be enabled by the data products, and what is their importance?
- What plans are there for timely dissemination of the data products to the community? High-level science products should be made available through the [HST data archive](#) or related channels.

Additional Criteria for Theory Proposals

- What new types of investigations with HST or with data in the HST Data Archive will be enabled by the theoretical investigation, and what is their importance?
- What plans are there for timely dissemination of theoretical results, and possibly software or tools, to the community?

Triage & approved proposals

Distribution of preliminary ranks for accepted proposals

Percentile	Cycle 20	fraction	Cycle 21	fraction	Cycle 22	fraction
P<10%	82	35.7%	80	32.1%	85	32.3%
10-20%	60	26.1%	62	24.9%	71	27.0%
20-30%	40	17.4%	45	18.1%	42	16.0%
30-40%	18	7.8%	31	12.5%	26	9.9%
40-50%	20	8.7%	19	7.6%	21	8.0%
50-60%	7	3.0%	9	3.6%	14	5.3%
60-70%	3	1.3%	1	0.4%	1	0.4%
70-80%	0	0%	2	0.8%	1	0.4%
Total	230		249		263	