

UH TAC Procedures

February 2017

Guiding principles

The aim of this document is twofold: (1) to codify many of our existing practices into a form suitable for public distribution, and (2) to improve the TAC process through an integrated set of modest changes.

The entire TAC review, voting, and allocation process is formalized by the present document, which will be posted on an internal website. The TAC will conduct its review according to the written procedures. Minor changes are under the purview of the current TAC, requiring a two-thirds majority of the TAC for approval, with the agreement of the IfA Director. Major changes will be subject to future discussion and approval of the faculty and IfA Director.

In general, the key drivers used to arrive at these procedures have been, in order of priority:

- science merit and productivity
- optimum use of resources
- reasonable workload for TAC members
- ease of implementation

1 TAC composition

1. The TAC is appointed by the IfA Director in consultation with the Chair of the current TAC. The TAC recommends a list of proposals and proposed allocations of observing time to the IfA Director. The decision on the actual allocation of observing time is the responsibility of the IfA Director.
2. TAC members responsible for the proposals in the upcoming academic year will be appointed in June.
3. The TAC membership list for the upcoming year will be posted on the IfA web pages at that time.
4. Service on the TAC is mandatory when requested. Refusal to serve on the TAC will result in loss of time application privileges for the coming year. If there are extenuating circumstances, the Director will consider a 1-year delay in appointment. The Director will appoint temporary replacements for faculty who are away on sabbatical or other approved leave, or who cannot be present at a specific meeting for reasons approved by the Director.
5. The TAC is composed of 8–9 voting members (7–8 faculty and 1–2 postdocs) and a non-voting Secretary. The science distribution of TAC members will approximately reflect the current population of proposers.
6. The bulk of the members will be tenured or tenure track faculty.
7. The TAC Chair is to be a tenured faculty member chosen by election by the committee. The TAC Chair will serve for a one year period.
8. The permanent membership for the Director of the 88-inch telescope is eliminated.

9. The graduate students will elect one non-voting student representative, who must have already been advanced to candidacy.
10. The non-voting TAC Secretary will be present to enable the review. Any tie-breaking voting situations go to the Secretary.
11. The term of service will be 3 years for faculty, 1 year for postdocs, and 6 months for the student representative.

2 Application form

1. The current application form will continue to be used, with the modifications described below. In the future, minor changes to the form are left to the judgment of the current TAC, requiring a 2/3 majority for approval. Major changes to the form, which constitute a significant alteration of the review policies, will be subject to discussion of the entire faculty. Any changes (minor or major) must be approved by the IfA Director.
2. Proposals are expected to be written entirely by the PI.
3. The Science Justification section is now limited to 4 pages of text and 2 pages of figures.
4. There is a maximum of 3 programs for faculty and postdoctoral researchers, and 1 program for students. A “program” means a single coherent science project, which can use multiple telescopes. For this purpose, a Ph.D. dissertation is considered to be a single program even if it has multiple scientific components.
5. Each program will come with a good faith estimate of the number of nights per semester and number of semesters to completion, assuming no weather loss.
6. In the primary call for proposals each semester, an individual PI may apply for no more than 6 total nights of 8-10 meter telescope time. Similarly, there is a 4-night limit on constrained resources on an individual 8-10 meter telescope. A constrained resource is one for which UH has been allocated an upper limit to the amount of time in a given configuration. Currently, Keck/Subaru/Gemini dark times are the constrained resources, though this may change in future semesters with the arrival of new instruments. For this purpose, dark time is defined to be ± 7 nights from new moon. If there is a substantial ambiguity on the definition of a constrained resource, the matter will be determined by the IfA Director.
7. The PI can indicate an additional amount of time that could be used for a specific program in case the requested telescope is not fully subscribed. Such a request must be properly justified. If such additional time is granted, the PI can exceed the limits outlined above (6 nights of 8-10 meter telescope time and 4 nights on constrained resources).
8. In the Technical Justification, proposers are *required* to describe telescope + instrument combinations that may be (fully or partially) acceptable alternatives to the requested combination. The TAC may use this information to shift moderately-ranked programs between telescopes (see Review Process below). Programs without this information may be at a disadvantage, especially for highly subscribed telescopes.
9. The ordering of the programs ABC will be interpreted as the PI’s priority for the programs. Therefore, proposers should make their highest priority program “A,” their second “B,” and so on.

3 Large Collaborative Programs

1. Large Collaborative Programs are large efforts extending over more than one semester with multi-semester approval given at the start. These programs are intended to address a significant scientific goal in a thorough and systematic way with the potential to achieve a major advance. They are programs that from the onset clearly require a large number of nights but are not to be open-ended. They must have well-defined goals and a well-justified total amount of time required for completion. Thus Target of Opportunity programs are not eligible. The team conducting the program must be comprised mainly of UH employees who devote a majority of their research effort to them. The scientific activity and publications of the program must be dominated by its UH members.
2. A special proposal for these programs must be submitted. The scientific justification with figures should be no longer than 8 pages with a 16 page maximum for the entire proposal. References and technical justifications do not count towards the limit. The margin and font limits are the same as for single-semester proposals. The proposal must contain a detailed management plan with the duties of each team member described, how the data will be reduced, and anticipated publication plans and timescales. The technical justification must clearly describe and justify the time request (number of nights, instruments/telescopes) for each semester. It is expected that this justification will be more extensive than for a single-semester proposal; but it must be kept together in one section, so that this information can be easily provided to other institutions that wish to offer technical evaluation.
3. The PI of the program must be a UH faculty member, there must be at least three UH faculty members on the team, and the team must be comprised of at least two-thirds UH astronomers (faculty, postdocs or students). Each team member may only be on one selected program, but may be on any number of proposed programs until one is chosen. These membership criteria must be met every semester until all observations are complete. The PIs may determine the project membership as they think best, subject to the criteria in this paragraph.
4. Programs are solicited once per year. Proposals may request observing time starting in either of the following two semesters. The minimum/maximum duration of a program is 1/3 years. No more than one of these programs may be approved in any call. In any semester, all such programs may use no more than 40% of any constrained resource, as defined above, and use no more than 30% of the total UH time available that semester on any telescope. Programs will not be extended beyond the proposed period, but may be repropose either as a Large Collaborative Program or as an individual PI program.
5. The PI decides whether to propose for classic or queue time and the distribution of time in the queue bands, subject to the restrictions in the previous paragraph. Data will be made immediately available to UH astronomers, but the usual proprietary period will apply to non UH astronomers. PIs who are not members of a Large Collaborative Program team may propose smaller programs with overlapping goals, but should use the Large Collaborative Program data to the extent possible and not request new observations for similar data.
6. In any semester after a Large Collaborative Program begins observing until the end of the observing phase (including intervening semesters without actual observations due to, for example, the RA range of targets), the maximum number of individual PI programs allowed for each team member is reduced to one for faculty and postdoc team members and zero for student members.
7. The PI must specify milestones in the initial proposal and give the TAC a formal written progress report by each semester's proposal deadline. This report must include the fraction of each milestone completed. The TAC reviews the progress at each TAC meeting and recommends to the director whether to approve or disapprove continuing. The PI will maintain a

project web site internal to UH with a non sensitive summary of the program and progress towards its milestones. The site must be updated at least one month before each semester's UH proposal due date with sufficient detail so that other UH astronomers can plan their own individual proposals in relation to the Large Collaborative Program.

8. The review of Large Collaborative Program proposals will occur the day before the semiannual TAC meeting. Up to one proposal will be forwarded to the TAC meeting, where it is ranked along with all other projects in the usual way. If the ranking of any Large Program instrument/telescope request falls below the initial grey zone, then the whole project is rejected. If any are in the initial grey zone, then the TAC decides how to proceed with the whole project. The rank of all instrument/telescope requests of an approved Large Collaborative Program will be determined each succeeding semester by the TAC during its semiannual meeting. In order to assure continued observing time, these rankings must be in the upper half of all approved programs for each relevant telescope and for queue telescopes must also be consistent with the originally approved band allocations.

4 Proposal review criteria

1. The scientific merit of the project: importance to its specific sub-field and to astronomy in general, relative to the value of the resources requested.
2. Technical feasibility and likelihood of success, including estimates of the expected results and the needed accuracy of the data.
3. Clear rationale for the type and number of targets, the choice of telescope + instrument(s), and the amount of time requested. If the resource request is not well justified, the proposal will be down-graded, even for a proposal with high scientific merit.
4. Expertise and track record of the proposers.
5. Demonstration of timely progress and publication from previous allocations, as appropriate.
6. Complete accounting of allocations of telescope time for the past 2 years and status of these observations. Proposers may be penalized for not following the instructions regarding the listing of publications and previous telescope usage.
7. Level of commitment and contribution of the PI to the proposal.
8. No consideration of status (faculty/postdoc/student) in the grading (but see Objective Bonus below for approved student theses).
9. Grading based exclusively on the submitted written proposal and publicly available information.

5 TAC grading and review process

Procedure prior to TAC meeting

1. The Chair assigns primary and secondary reviewers to all proposals, with conflicts of interest established by the TAC Chair and/or self-reported. At the discretion of the Chair, proposals that require undersubscribed telescopes need not be graded or discussed.
 - Conflicts of interest for a proposal include personal involvement (PI or Co-I), recent/current advisor of PI or Co-I, involvement in closely competing proposal (same targets or same specific science or any Large Collaborative Program), close personal ties (family, etc.), or any other substantial conflicts.

- In the case of limited resources (e.g. Keck LGS AO, dark time, and sub-mm dry weather), if the aggregate sum of time requested by a TAC member's programs (PI and co-I) exceeds 40% of the total requested time, the TAC member is excused from discussion of all proposals involving that limited resource. For this purpose, entire telescopes can be considered limited resources. Programs involving use of multiple instruments will be handled on a case-by-case basis, following the spirit of this guideline.
2. Outside technical reviews (e.g., CFHT, JCMT) are collected by the Secretary, and distributed to members prior to the initial TAC meeting.
 3. All non-conflicted TAC members submit individual grades (kept anonymous) to the Secretary, for all the proposals that the Chair indicates, according to the above stated review criteria. Different programs within a given proposal are judged separately and individually graded. The initial grades are requested because they help induce TAC members to optimize their homework prior to the discussion.
 4. One night per month of 2.2 m time is reserved for rapid response proposals to the IfA director or his designee.

Procedure during the TAC meeting

1. As appropriate, programs on undersubscribed telescopes are not discussed, but are allocated by the TAC Secretary and TAC Chair, with input from any TAC member who wishes to participate.
2. For the oversubscribed telescopes, programs are discussed according to science topic (not by telescope), with the specific organization left to the TAC.
3. Each program is discussed and then anonymously re-graded by the non-conflicted TAC members, in accord with the above stated criteria and abiding by the following rules:
 - Looking ahead at telescope rankings during the review process is prohibited.
 - No penalty for collaboration amongst faculty/postdocs/students.
 - No changes to time requests until step 8.
 - No hidden metrics or review criteria that are not publicly posted.
 - Where appropriate, distinct components of a proposal may be voted on separately.
4. At the end of the overall discussion, the Secretary collects only the grades provided by those TAC members present in the discussion, and normalizes them, such that each TAC member's scores are adjusted to a common mean and standard deviation.
5. For each program, the final grade is computed by omitting the highest and lowest (normalized) individual grades and then taking the mean of the remaining grades. The standard error of the mean is also calculated. Then for each telescope, a rank ordered list of proposals is formed, and the grade at which a full subscription of the telescope would occur (in what follows the "full-subscription grade") is determined.
6. Then, for each telescope, proposals whose (grade) minus (their standard error of the mean) lies above the full-subscription grade will receive their full requested allocation. For telescopes with multi-band queues (e.g., CFHT, Gemini, JCMT, SMA), the TAC may change the ranking by one band for proposals whose (grade) plus or minus (their standard error of the mean) equals the grade defining the boundary between bands.
7. Proposals whose (grade) plus (their standard error of the mean) lies below the full-subscription grade will receive a zero allocation. They may also be moved to an undersubscribed telescope if such telescope is an acceptable alternative in the Technical Justification.

8. The remaining proposals with intermediate grades (i.e., within ± 1 standard error of the full-subscription grade) may be allocated a fraction of their requested time, but not necessarily so. They may also be moved to a different telescope if this results in more optimal schedule.
9. Objective Bonus: Each intermediate proposal will be moved up two ranks if the PI, or a student supervised by the PI, has a refereed first author publication which has either appeared or is in press within a two-year period computed from the proposal deadline. Graduate student PIs who do not satisfy this criterion will be moved up one position in the ranking if the program is part of their approved thesis. A paper used to boost a student's proposal cannot also be used by another proposer (including their advisor). If a proposer has been heavily involved in a scientific activity (such as building a major instrument) that (1) has severely diminished his/her ability to produce refereed first-authored papers over the previous 2 years, but (2) will no longer seriously impede the PI's productivity during the coming semester, he or she can petition the TAC to extend the two-year consideration period for refereed first-authored publications to up to 2 years before such involvement began, to a maximum of 5 years. A 2/3 majority of the TAC must agree to such an extension. Such petitions are to be considered uncommon events, not to be invoked on a regular basis, and are only eligible to faculty.
10. The TAC will discuss the rank-ordered list of intermediate proposals and consider suggestions for a fractional allocation of telescope time. The justification for partial allocations will include the proposal's relative rank, the availability of time specific to the program's requirements, and the amount of resources needed to usefully proceed with the program.
11. The TAC may give a zero allocation to proposals for an undersubscribed telescope by majority vote.
12. An unsuccessful proposal for telescope A may displace a lower-ranked proposal for telescope B, even if all telescope B proposals would otherwise be allocated time. This action assumes the PI of the telescope A proposal indicated the proposal could be done on telescope B. In such cases, the TAC will assign independent grades to the proposal for both telescopes with the telescope B grade used for ranking the proposal on that telescope.
13. The TAC will make a prioritized list of any programs above the lower cut-off that it recommends should receive additional time, if such time, with appropriate instrumentation, should become available during the semester. The information provided by the PI concerning the use of additional time will be used by the TAC for this purpose. For extra available time that cannot be accommodated by this provision, the TAC secretary, in consultation with the IfA Director and the TAC Chair, will issue a supplemental call for proposals. Proposals submitted in response to such a call will be voted on by the full TAC, to the extent feasible with respect to time constraints, and the recommendation will be forwarded to the IfA Director.
14. At the end of the process, the TAC may adjust time allocations outside of these guidelines if needed in response to scheduling constraints, e.g., when an under/oversubscription of a part of the semester or a limited resource (e.g. dark time) requires adjustments to arrive at a feasible final outcome. This is intended as a minor adjustment to reach the final decisions, not as a general mechanism for determining allocations. Proposal ranking will provide the primary input for any adjustments.

Procedure post-TAC meeting

1. All successful program titles and allocations will be publicly posted, on an internal IfA website or on a notice board.
2. Oversubscription rates for each telescope will be posted, with a running record maintained on an internal web site.
3. The TAC will provide written feedback to each proposer no later than two weeks after the last TAC meeting.

6 Eligibility

Student proposals and the "Pre-Review" mechanism

Only students who have advanced to candidacy are eligible to submit proposals for all of the telescopes to which the UH has access. Prior to candidacy, students are eligible to apply for time on the UH 2.2 m telescope, UKIRT, and up to 2 hours of queue time on either Gemini or CFHT.

1. In order to advance to candidacy, students with theses requiring UH telescope time will be required to submit a telescope proposal based on their thesis research to the TAC for *Pre-Review*. The proposal should include a good-faith estimate of the total telescope time needed for completion of the thesis, assuming no weather loss. The Pre-Review proposal must be submitted 10 weeks before the first TAC deadline by which the student intends to apply for thesis observations. Basing its judgment on a comparison with the previous semester's rankings, the TAC will promptly provide the grade, the ranking, whether time would have been awarded, and feedback to the student and thesis committee prior to the thesis approval. Except in cases of unavoidable scheduling difficulties, it is expected that the thesis presentation will occur after the Pre-Review feedback process. A revised version of the proposal can then be submitted by the regular TAC deadline.

The Pre-Review grades, rank and feedback are not for actual telescope time. They primarily allow the student, the advisor, and the thesis committee to assess the current TAC situation and to gauge the probability that the student project would receive the telescope time needed to complete the desired science, based on the previous semester's situation. The TAC Pre-Review will be non-binding and reflects only an assessment in terms of the previous semester's time allocation. Likewise, it is recognized that endorsement by a thesis committee does not serve the same role as TAC review as to the future merits, feasibility, competitiveness, etc., of a student's observing proposal.

2. Once the Pre-Review has been completed and the thesis has been approved, students will submit their proposals in the regular semester cycles and be evaluated by the TAC using the above stated criteria. As with all PIs, students are expected to demonstrate good-faith progress in analyzing data from previous allocations and must describe such progress in detail in future proposals.
3. Student thesis programs are not given long-term status, nor are they guaranteed continuous observing time, and they will be evaluated by TAC members equally with other proposals.
4. All student proposals must have a faculty Co-I. For thesis proposals the thesis advisor must appear as a Co-I.
5. Proposals must be written entirely by the student, with advice and input from their faculty Co-I as appropriate.
6. Students must be enrolled at the UH at the time of their allocated nights.

Postdoc proposals

1. Incoming postdoctoral researchers are eligible to submit applications prior to their arrival, but must be official UH employees by the time of their allocated nights.
2. Outgoing postdoctoral researchers must be official UH employees at the time of their allocated nights.

Visitors

Only long-term visitors, with stays of at least one year, will be eligible to apply for telescope time.