

UH-Hilo Telescope Time Allocation Committee Rules and Procedures

RPM (09/03/2019; v. 2.5)

Recent Changes (for 2020A and forward)

- 1) If you are applying for Gemini time, it seems that the Gemini phase I must be done prior to our submission deadline.
- 2) I have included the rules for the UH TAC in our documentation. Please refer to this as well to make sure that your proposal is meeting some of the constraints for the UH telescope time. In particular, there are some restrictions on the number of proposals if you are participating in any large UH program.
- 3) The maximum total time available for UH Hilo through this UHH submission process for 2020A is **6.0 nights**. Typically, however, 2 or 3 nights are allocated for a given semester.
- 4) We have been asked by IfA to avoid requesting the same telescopes over and over....

A - Background

A.1 IfA and UHH Memorandum of Understanding

In order to strengthen the undergraduate program in astronomy at UH Hilo (UHH) and to provide more educational and research opportunities to students, an agreement on cooperation in astronomy and education has recently been signed between the UH Manoa Institute for Astronomy (IfA) and UH Hilo. In this agreement, a portion of all the UH observing time on Maunakea telescopes is now allocated to UHH for use in projects and programs to support greater participation and improved preparation of Hawaii students for professional careers. The MOU is attached to this document.

The telescope time for UH is approved by the IfA Director, following a review process undertaken by the UH Time Allocation Committee (UH-TAC). Within that context, we will address two of the main elements described in the MOU in this document, mainly the allocation of telescope time to UHH:

- Up to 16 nights per year distributed over all telescopes (excluding the UH 88") will be reserved for this purpose and administered by UH Hilo. This will be implemented in three steps, 6 nights in the first five years, 10 nights in the second 5 years, and 16 nights thereafter. These nights will be identified by UH Hilo before the regular TAC process and reserved by the IfA director.
- A fraction of 10-20% of the observing time on the UHH 88" telescope will be reserved for the hands-on undergraduate astronomy education program. In exchange for its share of the observing time, UH Hilo will contribute to the UH 88" operation costs through an APT technician

to support telescope operations. UH Hilo will retain the necessary personnel oversight through appropriate representation in the telescope management structure.

A.2. Purpose of Current Document

The present document addresses the following aspects of allocation of telescope time on the Maunakea facilities to UHH:

- Telescope time: List of facilities, observing night definition, time availability, schedule, UH 2.2 meter, Hoku Kea Observatory
- Eligibility for UH Hilo telescope time
- Composition of the UH Hilo Time Allocation Committee (UHH-TAC)
- Proposal Submission: Form and Application Process
- UHH-TAC Evaluation Process: Criteria, Grading and Ranking.
- Post-UHH TAC meeting: Coordination with the IfA Director and the UH-TAC
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B – Telescope Time

B.1 Facilities

The following list includes the Maunakea optical/infrared/submm/radio facilities for which observing time is available to UHH through the allocation explained in the MOU. Thus, for 2019B, the review and allocation process described in this document applies to the following:

- W. M. Keck Observatory (Keck I and Keck II) (10m)
- Subaru Telescope (8.3m)
- Gemini North Telescope (8.1m)
- UKIRT (3.8m)
- CFHT (3.6m)
- JCMT
- SMA

NOTE: At the moment, IRTF and VLBI use a different TAC process; these observatories are not included in this document but time on these facilities remains available to UHH faculty members through the regular UH TAC process.

B.2 Observing Night Definition

The MOU prescribes *nights* of observing time on different facilities. However, the definition of an “observing night” often varies according to each individual observatory (and sometimes even within a specific observatory according to their observing modes); some facilities operating under queue observing, for instance, use hours as the unit of telescope time. Prior to each semester, the IfA director (and UH TAC) receives the available allocation for each observatory e.g. some in nights, others in hours, others in “tracks”. *To be consistent, the UHH TAC will employ the same definition of an observing night than that of the UH TAC (which should be consistent with each observatory’s definition).* It will be up to the UHH TAC to make sure that the selected programs do not exceed the maximum equivalent number of nights as agreed upon by the MOU.

B.3 Time Availability

The MOU agreement details the time available through the UHH-TAC (here excluding the UH 2.2 meter):

- 6 nights per year in 2017A – 2021B
- 10 nights per year in 2022A - 2026B
- 16 nights per year 2027A and following

As described below, this time is to be taken “from the top” of the total UH time available on all the facilities on Maunakea, according to the definition of an observing night for a given observatory as discussed above.

Time on the UH 2.2 meter will also be made available through the UHH-TAC. At the time of writing, that fraction is not fully established yet. However, because of the other requirements included in the MOU (e.g. new faculty, UH 2.2m APT), the likely lengthy period of time needed to implement them, and also the ongoing refurbishing project undertaken at that facility, the 2.2m telescope is not yet part of the UHH process for 2020A.

B.4 Semester Schedule and Submission Deadlines

The UHH-TAC will follow the standard definition of telescope time semesters, as used by the UH-TAC:

- Semester A (February 1st – July 31st)
- Semester B (August 1st - January 31st)

Thus, proposals should be submitted twice a year through the UHH-TAC. Since the results of the UHH-TAC must be first submitted to the IfA Director prior to be transmitted to the UH-TAC, the following deadlines apply:

- Semester A: Proposal Submission Deadline to UHH-TAC: Between March 15 - April 1st.
- Semester B: Proposal Submission Deadline to UHH-TAC: Between September 15th - October 1st
- UHH-TAC Results to IfA director: No later than 1 week prior to UH-TAC review meeting

B.5 Hōkū Ke’a Observatory

The UHH Educational Observatory (UHHEO)(remote/robotic 0.7 meter) is in development. It is not included explicitly in the process presented here because the plan is to have a special submission procedure for that observatory. Since many observations obtained with UHHEO will be undertaken within curriculum courses, it is planned that a monthly schedule will be produced instead of the much lengthier process of the typical submission review. Details are not known at this time but no direct action from the UHH-TAC is expected for UHHEO.

C - Eligibility

The following people are eligible to submit an observing time proposal through the UHH-TAC proposal process as a Principal Investigator (PI):

- Tenured and tenure-track faculty members within the UHH Physics and Astronomy (P&A) Department.
- Instructors within the UHH P&A Department.
- Affiliate professors within the UHH P&A Department.
- Current lecturers within the UHH P&A Department.
- Post-doctoral fellows currently within the UHH P&A Department.
- Long-term visitors, with stays of at least 6 months, within the UHH P&A Department.
- Other faculty members from other institutions within the UH system, except the IfA, with scientific projects involving UHH faculty members and/or UHH students.

In the context of eligibility, it is important here to remind that the main objectives of the MOU are to strengthen the UHH astronomy program and to offer more educational opportunities to that program. Therefore, who is applying for time, and whether or not their project will contribute to these objectives, must also be considered in the review process by the UHH-TAC.

D - UHH-TAC Composition

Central to the telescope time allocation for UHH is the UHH Time Allocation Committee (UHH-TAC):

- The UHH-TAC members are appointed by the Chair of the UHH P&A Department. Consultation with the IfA Director can take place during that selection. The UHH-TAC recommends a list of proposals and proposed allocations of observing time to the IfA Director. The Chair of the UHH P&A Department is kept informed of these recommendations. The final decision on the actual allocation of observing time is the responsibility of the IfA Director.
- Service on the UHH-TAC is mandatory for UHH faculty members when requested. Refusal to serve on the UHH-TAC will result in loss of time application privileges for the coming year. If there are extenuating circumstances, the Department Chair will consider a 1-year delay in appointment.
- The Chair of the UHH P&A Department cannot be a member of the UHH-TAC.
- The UHH-TAC is composed of four (4) voting members.
- The members of the UHH-TAC are composed of:
 - Two (2) UHH faculty members (e.g. tenured, tenure-track, instructors, affiliate);
 - One (1) IfA-Hilo faculty or post-doctoral fellow;
 - One (1) external member (from MKOs or HCC);
- The UHH-TAC Chair is to be a tenured or tenure-track faculty member within the UHH P&A Department and is chosen by the Chair of the UHH P&A Department. The TAC Chair will serve for a two-year period (renewable).
- The term of service will be 2 years for UHH, and 1 year for the external members and IfA. Depending on circumstances (e.g. to avoid too many members leaving all at once), an extension up to one year can be accorded to a member of the UHH-TAC, if approved. The

request will be made by the UHH-TAC Chair and reviewed by the P&A Department Chair.

- The current UHH-TAC membership list will be posted on the UH-Hilo P&A Department website.

E - Application Form

A slightly modified Latex application form developed over the years for the UH-TAC will be used for the UHH-TAC proposal submission. Some modifications have been applied to reflect some of the differences between both submission processes, for instance the prominence of the educational component for undergraduates for UHH. In the future, changes to the form suggested by the UHH-TAC will be reviewed and approved by the UHH-TAC Chair.

Some specifics:

- Proposals are to be written by the PI, in collaboration with co-PIs. That includes also students involved in the project.
- The Science Justification section is now limited to 2 pages of text and 1 page of figures.
- There is a maximum of 2 programs for a given semester for people eligible to require time through the UHH-TAC process. A “program” means a single coherent science project, which can use multiple telescopes.
- Each program must include an educational component, (or include students as participants). PI must fill the section on the educational value of the proposal. This new section includes expected contribution(s) of the student(s), scientific and technical goals to be met by the students, and expected products to be delivered. A short section on the timeline of the proposal is also requested.
- Each program will come with a good faith estimate of the number of nights per semester and, if relevant, the number of semesters to completion, assuming no weather loss.
- In the primary call for proposals each semester, an individual PI may apply for no more than 2 total nights of 8-10 meter telescope time through the UHH-TAC process for a given semester.
- 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 UHH- and UH-TACs may use this information to shift moderately ranked programs between telescopes. Programs without this information may be at a disadvantage, especially for highly subscribed telescopes.

F - Proposal Review Process

F.1 Proposal Submission Phase

- The application form and all the necessary files will be available through the UHH P&A Department website.

- The UHH-TAC Chair will send a general email to all UHH personnel concerned as a reminder of the proposal submission period and its deadline.
- The PI will generate a pdf-formatted file from the Latex form. The .pdf file will then be submitted to the UHH-TAC via an easy-to-use submission interface, which will time stamp the proposal and put it in a repository with restricted access.

F.2 Review Process: Criteria

The review process by the UHH-TAC, which must be done in a timely manner since results must be transmitted to the IfA Director before the meeting of the UH-TAC, will follow these criteria:

- The science merit of the project: importance to its specific sub-field and to astronomy in general, relative to the value of the resources requested.
- Technical feasibility and likelihood of success, including estimates of the expected results and the needed accuracy of the data.
- The educational value of the program proposed, in particular the expected contribution of the undergraduate students to the observations, analysis and publication. These contributions must be presented in a realistic manner, with a timeline as specific as possible.
- 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 downgraded, even for a proposal with high scientific merit.
- Demonstration of timely progress and publication from previous allocations, as appropriate.
- Expertise and track record of the proposers.
- Grading based exclusively on the submitted written proposal and publicly available information.

F.3 Review Process: Grading and ranking

- Prior to the review meeting, the UHH-TAC Chair will identify any possible conflicts of interest between the proposers and members of the committee. A conflict of interest includes personal involvement in the program (as PI or Co-PI), close personal ties (family, etc.) and involvement in closely competing proposal (e.g. same target or specific science).
- Prior to the review meeting, the UHH-TAC Chair will assign a *primary reviewer* for each proposal. The primary reviewer will verbally summarize the proposal to the rest of the UHH-TAC during the review process. The primary reviewer will also write down comments related to a specific proposal and send them to the UHH-TAC Chair after the meeting.

- Prior to the review meeting, the UHH-TAC Chair will prepare a worksheet which will include the proposal ID, PI name, proposal title, telescope(s) and instrument(s) requested, and the number of nights (hours) requested. Placeholders for the initial and final grades given by the members of the committee should also be included.
- Non-conflicted members of the UHH-TAC must read ALL proposals prior to the review meeting. An initial grade from 0-10 (see below) MUST be sent to the UHH-Chair prior to the meeting:
 - *Grade 1.0 – 1.9*: Obvious scientific/technical flaw(s): No telescope time.
 - *Grade 2.0 – 2.9*: Very mediocre proposal; not much value on science or education; technical flaws: Telescope time very risky.
 - *Grade 3.0 – 3.9*: Poor proposal but with some science merit or educational value; Telescope time is risky but might be ok under certain circumstances.
 - *Grade 4.0 – 4.9*: Below average proposal with some merit but affected by some flaws or low impact; Telescope time could be considered.
 - *Grade 5.0 – 5.9*: Average proposal with acceptable science and educational value; Telescope time is ok.
 - *Grade 6.0 – 6.9*: Good, above average proposal with good science and good educational value; telescope time is good.
 - *Grade 7.0 – 7.9*: Very good proposal, with high science impact and educational value; telescope time would be well spent.
 - *Grade 8.0 – 8.9*: Excellent, essentially flawless proposal with both high science impact and educational value; telescope time is highly recommended.
 - *Grade 9.0 – 10.0*: Essentially a perfect proposal; Very high impact science; high educational value; urgent observations; Telescope time is a priority.
- During the meeting, since subscription to telescopes is not known at this point, all proposals are reviewed and ranked without exception.
- The primary reviewer first summarizes each program. In case of a conflict of interests, the conflicted UHH-TAC member(s) must leave the room. Then each non-conflicted member of the UHH-TAC is asked to comment on the project as well.
- Each program is then anonymously re-graded by the non-conflicted TAC members, in accord with the above stated criteria and grading scale, 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.
 - No hidden metrics or review criteria that are not publicly posted.
- Where appropriate, distinct components of a proposal may be voted on separately.
- At the end of the overall discussion, the Chair collects only the grades provided by those UHH-TAC members present during the discussion.

- For each program, the final grade is computed by taking the mean of the grades. The standard error of the mean is also calculated. Then a rank ordered list of proposals is formed.
- The total telescope time requested by the successful proposals cannot exceed the total number of nights available to UHH through the MOU agreement. Following the ranked list, the UHH-TAC will:
 - Identify the top proposals for which the total time requested fill up the entire time available to UHH.
 - The UHH-TAC can then consider partial allocation of time to these top proposals to avoid over-subscription of the UHH time. ALL proposals can receive partial allocation, even if highly ranked. However, adjusting time must take into consideration whether the scientific or educational goals of the proposal will be too strongly affected by a partial allocation.

NOTE: The process described above applies for all telescopes, except the UH 2.2 meter. For that telescope, the same review process will take place but since the amount of time available will be different, the proposals submitted for the UH 2.2 meter will be ranked and selected ONLY amongst proposals submitted for that specific telescope. Final selection will be done with the same guidelines as described above in order to fill up the total time made available on the UH 2.2 meter, according to the MOU agreement.

G – Time Allocation Process

After the UHH-TAC has selected the successful proposals, the following steps are to be undertaken:

- The UHH-TAC Chair will promptly submit the results of the review process to the IfA Director (and cc. the UHH P&A Department Chair). This step is confidential. This is to ensure: 1) That the total time requested by the programs accepted does indeed not exceed the total allocation acceptable for UHH; 2) To confirm that the PIs are eligible for UHH telescope time; 3) To solve any conflicting results from the UHH-TAC; 4) Enable discussions to improve UHH-TAC procedures.
- The UHH-TAC Chair also send the following information to the IfA Director:
 - The accepted UHH proposals (.pdf).
 - A table with the following information: The list of accepted proposals, their proposalID (UHH-##) the PI name, telescope and instrument requested, time allocated ([hours/nights]), observing nights equivalence ([nights]).
 - If two or more proposals requested the same telescope in a queue mode, the ranking (priority) will be indicated.
 - Any additional comments useful for the IfA director or the UH-TAC.
- The IfA Director will transmit the accepted proposals with the above information to the UH-TAC Chair. The UH-TAC Chair will assign a new proposalID for each accepted UHH

proposal (UH-##) so that they do appear to be an integral part of the UH time from an observatory's point of view.

- The UH-TAC will review each UHH proposal and offer comments to the PIs, if desired.
- If the UHH proposals are allocated on a telescope which is queue scheduled, the UH-TAC should allow the ranking of the UHH proposals to be sufficiently high enough to ensure a good probability of being executed; as such, each UHH queue proposal should be found in the top third of the ensemble of accepted queue programs for UH on a given facility.
- As with the normal process, the UH-TAC will transmit the results to the IfA Director. After approval, the UH-TAC Secretary will communicate the results of the UHH-proposals to the UHH-TAC Chair. As usual, the UH-TAC communicates the results to the respective observatories.
- The UH-TAC Secretary will notify each PI receiving allocated time.
- Comments from both TAC are sent to PIs for accepted proposals. For UHH proposals not successful, the comments are to be sent to the PI by the UHH-TAC Chair only.
- Successful program titles and allocations will be publicly posted on the UHH P&A department website.