

SWINBURNE TIME ALLOCATION COMMITTEE FOR KECK (STACK): POLICY AND PROCEDURES

SCOPE

This document defines the terms of reference, policy guidelines, procedures and operational details for our internal TAC – the Swinburne TAC for Keck, or STACK – that is responsible for allocating Swinburne time on the Keck telescopes.

Applicants are reminded of the additional Keck nights available via collaborations with Caltech staff; proposals for those nights must be made in accordance with Caltech's submission deadline and procedures.

PRIMARY ROLE

The primary role of the STACK is to ensure the maximum scientific outcomes for Swinburne from time on the Keck telescopes.

The Vice Chancellor has invested in Keck time for CAS astronomers with the specific aim of achieving greater research output for Swinburne, particularly high-impact papers in *Nature* and *Science*. The STACK members, and all applicants for Keck time, must realize the seriousness of this investment, which is unprecedented in Australia. This is illustrated by the value of each Keck night, i.e. approximately one staff member's annual salary. Therefore, the deliberations and decisions of the STACK must focus on **maximizing the scientific return for Swinburne**. The STACK is not distributing time on a National Facility; it is instead being given significant responsibility for Swinburne's scientific output and an important say in how a large proportion of Swinburne's research budget is used.

The STACK is reminded that Swinburne's investment in Keck has only a 5-year tenure. The first term ended in semester 2013A. Swinburne's Keck investment has been critically reviewed and has been renewed for another 5-year period, extending access until 2018A.

FOR OBSERVERS:

CALL FOR PROPOSALS

A call for proposals (CFP) will be issued by the STACK Technical Secretary (TS) once the restrictions on the number of nights available on each Keck telescope and their lunation distribution and any other restrictions has been determined by Caltech and Keck. **These restrictions will be stated in the CFP and should be carefully considered by proposers.** The CFP will also include a strict deadline for submission of proposals. It will include a statement to the effect that **proposals received by the TS after the submission deadline will not be accepted.** Only in exceptional circumstances, and with approval from the CAS Director, can a proposal be submitted after the deadline. Any request to the TS for late submission will be immediately passed to the CAS Director only who will then deal with the matter in consultation with the TS.

APPLICANT ELIGIBILITY

CAS staff and postdocs who have a PhD in astronomy/physics may act as PIs of STACK proposals. For PIs on fixed-term contracts, the contract end date must be stated clearly on the proposal form. Postdoc PIs are required to have a permanent CAS staff member as a CoI who must accept responsibility for the data and outcomes of the observations. Students can apply with an eligible PI. Applicants should consider that Keck observations cannot be guaranteed and **student theses should not be designed to rely exclusively on Keck data obtained through the STACK.** The role of the proposal in the student CoI's thesis work should be detailed in the proposal. In addition, the role of all non-SUT Co-Is must be fully specified in the proposal.

PUBLICATIONS

Any publications related to STACK-awarded time must have SUT as an affiliation on the publication. Even if the CAS staff member moves to a different institution, SUT must be listed as an affiliation. It is

expected that data acquired via STACK allocated time is to be published in a timely manner, with submission to a refereed journal to occur no later than 1.5 years after the last date of observations. The lack of publications for completed projects will be considered in the ranking of the PI's and Co-Is' future proposals.

PROPOSAL FORM

The proposal form consists of two parts. The first part, an online cover sheet, must be submitted to the Keck Observatory. The second part is a simple pro-forma, the PDF version of which should be submitted together with the cover sheet via email to the TS by the advertised deadline. The proposal pro-forma includes specific instructions on information to be included in each section. The Scientific Justification must present the scientific reasons why the proposal should be granted time on the Keck telescopes. It should clearly set out the scientific background, importance and expected/possible scientific outcomes of the proposed observations. The Technical Justification section is crucial for evaluating technical feasibility of the proposed science and will be carefully considered by the TS and STACK. This section should explain how the science proposed in the Scientific Justification could be undertaken with Keck. It should not be used to explain, for example, target selection or sample definition, etc. A backup program must be summarized in case of bad weather or technical problems at the telescope.

TECHNICAL FEASIBILITY

It is the PI's responsibility to ensure that the submitted proposal includes all information relevant to assessing its technical feasibility "as is", with no further assumptions required by the STACK for proper assessment.

It is crucial that PIs **carefully justify** (not just simply state) the telescope time, lunation and instrument requirements. Include a justification on why the number of hours or nights of telescope time is requested and why the lunation is required. Equally important is to include whether or not the science can be done during other lunations. Finally, a description of the various instrument set-ups, filters, grisms/grating, and etc. that are needed to achieve the proposed science must be clearly described. For example for spectroscopy, which atomic transitions at which wavelengths are needed and which separate instrument settings are required to observe them? If there are any aspects of flexibility in the scheduling, lunation, instrument, wavelength range, resolution etc., then these must be justified in the proposal. If the STACK cannot establish the feasibility of a proposed program of observations, **or proposed variations on it** (e.g. with respect to lunation, instrument etc.) then it is clearly difficult for the STACK to award that proposal time on Keck.

Proposers are strongly encouraged to discuss technical feasibility issues with CAS staff, including the TS, and/or Keck staff and/or Caltech staff when preparing their proposals, i.e. **before the submission deadline**.

Proposers should include all relevant information in the proposal. Any significant information relevant to the proposal that emerges after the proposal submission deadline must be submitted to the TS in writing. No discussion of submitted proposals between proposers and STACK members should be entered into.

MINIMUM TIME REQUEST

To be consistent with the Keck Observatory's cover sheet submission system, the minimum time request allowed for applications will be half a night. All applications must ask for multiples of half-nights, however, applicants should realize that it is difficult for Keck to schedule half-nights. Thus, it is strongly recommended that applications request time in terms of full nights. However, applicants applying for half-nights are suggested doing so in conjunction with other proposers who can share the same night and instrument. This arrangement should be spelled out in the proposals involved. Fewer scheduling difficulties for Keck will arise if whole nights are requested. Of course, full and proper justification of all time requested must be supplied in each proposal.

MAXIMUM TIME REQUEST

There will be no limit to the total amount of time requested by any applicant. It is anticipated that there will be ~7–8 nights available to SUT each semester (plus up to ~5 nights for projects in collaboration with Caltech). **Applicants should carefully consider requests for more than two nights in a single proposal;** of course, all allocations, regardless of their size, will be considered against their likely scientific outcomes.

LONG TERM STATUS

No Long Term Status requests are allowed. If a project is likely to require time in more than one semester, the amount of time required in future semesters should be noted in the proposal, including the Keck proposal cover sheet, and a new proposal should be submitted for the next relevant semester. Approval of a proposal in one semester does not imply that it will be favoured in subsequent semesters. **Reasons for future requests should be made clear in the current proposal. The outcomes of previous allocations for the same project should be made clear as well.**

SCHEDULING OF SUCCESSFUL PROPOSALS

Once the final recommended time allocations are determined, the successful proposals will be put forward to Keck (via Caltech). The PIs will be notified of the recommended allocations as soon as possible after they are sent to Caltech for approval. However, it is possible that Keck will not be able to schedule some proposals in their submitted form, thus the STACK allocated time is not guaranteed.

If the TS receives a preliminary Keck schedule and a Swinburne proposal has not received the “preferred” or “acceptable” scheduling, as entered on that proposal’s Keck cover sheet (i.e., the proposed science may be compromised by the scheduling constraints), the TS will inform the PI prior to the release of the semester telescope schedule by Keck. **It is therefore very important that PIs carefully select “preferred” and “acceptable” dates on proposal cover sheets.** If such proposals have some degree of flexibility then the PIs and TS may liaise with the Keck schedulers to find a mutually satisfactory solution. It may also be possible to trade nights with other scheduled users of Keck (from any institution). However this option typically needs to be done **prior** to proposal submissions for either institution. If, after exhausting these possibilities, a successful proposal cannot be scheduled, the TS will inform the STACK members who will then offer the time to the next best proposal(s) that can properly make use of the available time.

Considering the above, **it is important that proposers detail the flexible aspects of their proposal.** Failure to do so may mean that their otherwise highly ranked proposal cannot be put forward to Keck for scheduling.

FEEDBACK

The TS will distill the STACK comments to provide feedback on proposals but this will be limited to a brief summary relating to their clarity, scientific merit and, on a best-efforts basis, their feasibility. Feedback will be made available as soon as possible to PIs after the final recommended allocations have been sent to Caltech and proposal outcomes have been made available to all applicants.

STACK PROCEDURES:

MEMBERSHIP

The STACK will comprise 6 voting members:

- The Chair, who will be appointed externally for a 5-semester term;
- 1 Level E CAS staff member with 4-semester term;
- 1 Level D/E CAS staff member with a 3 semester term;
- 1 Level C/D CAS staff members with a 3-semester term;
- 1 level A/B CAS staff member with a 3-semester term;
- 1 CAS PhD student with a 2-semester term.

The STACK will also have a non-voting Technical Secretary (TS) with experience in observational optical astronomy. The role of the TS is to liaise with Caltech and Keck on all aspects of the telescopes, available instruments and proposal/scheduling process. The TS will also administer the internal Swinburne proposal process, including the STACK meeting and its outcomes. The TS will undertake other duties related the Swinburne's Keck investment not detailed here. Finally, the TS will ensure that appointments to the STACK are staggered to provide continuity and retention of 'memory', with no more than half of the members rotating off at any given time.

Senior CAS staff will select the external STACK Chair. Volunteers will be called to fill the Level E, D/E,

C/D, and A/B positions. STACK members must notify the TS well in advance (preferably before their proposed final STACK meeting) if they wish to shorten their STACK tenure.

A transparent vote will be organized by the departing student representative to select the new representative for the following semester. Students must consult their supervisor(s) before nominating themselves (or being nominated) for the vote. The CAS Director must confirm all appointments.

RANKING OF PROPOSALS

The ranking of proposals will be based on how well they maximize the scientific outcomes for Swinburne. Note that the ranking is not to be based purely on scientific merit or, by contrast, purely on some measure or perception of “Swinburneness”; rather, the ranking will reflect the STACK’s balanced consideration of how each proposal **maximizes the scientific outcomes for Swinburne**. Given this primary role, the STACK may support higher-risk/higher-payoff proposals compared to other TACs (e.g. ATAC). Recall that one of SUT’s main goals is to increase the number of SUT *Nature* and *Science* publications.

The STACK will follow a similar process to other TACs: STACK members will read and rank each proposal and submit their scores to the TS prior to the meeting. The STACK will then discuss the proposals in the order in which they were submitted. After discussion, members can alter their proposal rankings. The final scores will be revealed after proposal discussions are complete. The scores will determine the proposal rankings and ties between proposals will be broken by a vote by all STACK members. The STACK Chair will have the casting vote; that is, if there is a tied vote, the proposal for which the Chair voted will be ranked higher.

The TS and STACK members will, on a best-efforts basis, assess the technical feasibility of each submitted proposal. There will be no discussion between PIs and STACK members or the TS about particular proposals after the submission deadline.

The STACK will not consider technical, editorial or any minor changes to a proposal made after the submission deadline. If important additional information emerges about a proposal after the submission deadline, the PI must have submitted it to the TS in writing **before** the STACK meeting. No information from any other party, including STACK members, may be considered when grading the proposal. The TS will consult with the STACK Chair about the relevance of any additional information provided by a PI and whether it should be considered when (pre-)grading their proposal. Depending on the Chair’s decision, the TS may circulate the additional information, in writing, to all STACK members **before** the STACK meeting. No new information, of any kind, about any proposal, may be tabled at the STACK meeting itself. The only exception shall be a PI’s request to withdraw their proposal from consideration; such a request must be in writing to the TS.

All STACK members must attempt to appraise all proposals at the same level of detail. Immediately prior to the STACK meeting, the TS will assign each proposal to a single STACK member who will lead discussion of that proposal. Along with the discussion of the proposal during the meeting, the discussion leader will address the “Swinburneness” and potential SUT scientific outcome and recommend the minimum time allocation for the proposal to be considered by the STACK. Justification of any variance from the PI’s requested minimum time should be given and discussed. In addition, any other aspect of flexibility in the proposed allocation (e.g. with respect to instrument, lunation etc.) should be explicitly discussed.

STACK members will take no part in the **grading or discussion** of proposals on which they are an investigator, absenting themselves from the meeting when their proposal is being considered/discussed. STACK members may declare a conflict of interest in grading and discussion of any proposal and absent themselves accordingly.

The scores and comments of individual STACK members will be treated as strictly confidential before, during and after the STACK meeting.

The ultimate outcome of the STACK meeting must be a recommended allocation of the available telescope time to particular proposals. The final ranking of proposals will be the main guide to award time, but the STACK must carefully consider the various aspects of minimum allocation and flexibility of each proposal in this process. At all times the STACK's primary role should be carefully considered: for example, several proposals may have very similar scores, however allocating time strictly in order of formal proposal ranking may not maximize the scientific outcomes for Swinburne. Moreover, telescope time may need to be passed over, or "banked", to the following semester if not enough proposals are of sufficient quality and/or do not deliver a sufficient level of scientific outcome or impact for SUT. In deviating from the formal proposal ranking, careful consideration should be given to conflicts of interest among the STACK members. The STACK, particularly the Chair, should be diligent during this phase of the STACK meeting to ensure that the STACK's primary role is achieved.

QUORUM

The minimum number of non-conflicted STACK members required to reasonably assess a proposal and rank it against others is three (3). If, at the proposal deadline, it becomes clear that this quorum will not be met for one or more proposals, then the CAS Director and external STACK Chair should together select additional STACK members (either internal or external) to produce a quorum for that semester. All STACK members, including the additional ones, will have equal rights and responsibilities to rank and discuss every proposal for that semester.

STACK RECOMMENDATIONS

The recommendations made by the STACK on the allocation of time will be final. Only the CAS Director, in consultation with the STACK Chair, may alter the recommendations (see below) prior to the forwarding of proposals to Caltech. This notwithstanding, it must be realized that the STACK outcomes are subject to approval by Caltech (e.g., changes in lunation, nights, etc.) and scheduling by the Keck Observatory. As described above, efforts will be made to resolve scheduling conflicts. However, the TS will inform the STACK members if Keck cannot schedule a proposal. The STACK will allocate the available telescope time to the next best proposal that can be scheduled.

ROLE OF CAS DIRECTOR

Prior to the Call for Proposals, the TS will inform the CAS Director of any restrictions on the number and distribution (telescope, lunation, instrument etc.) of Keck nights in the upcoming semester. The CAS Director should indicate if they wish to place any further restriction on the number or distribution, after which the TS would issue the Call for Proposal.

Immediately after the proposal submission deadline, the TS will supply all proposals to the STACK and the CAS Director. Shortly before the STACK meeting, the CAS Director, having read all proposals in detail, will meet with the STACK Chair with the aim of ensuring the Chair is well briefed on the primary role of the STACK.

The recommended time allocation from the STACK, and any special instructions with regard to scheduling, will be submitted to the Director for approval immediately after the STACK meeting. The CAS Director may meet with the Chair at this time to query the recommended allocations and, if required, adjust them. No changes by the CAS Director are expected without consulting the Chair. If the Chair wishes, another meeting of all STACK members may be called as soon as possible to consider proposed alterations to the allocations if time permits. The CAS Director has final responsibility for, and must approve, the final allocations before they are forwarded to Caltech.

PAYMENT OF EXTERNAL CHAIR

The External Chair should be remunerated for the time they spend at STACK meetings as well as for time spent in preparation (reading proposals and administration). It should be assumed that this amounts to 3 days per meeting (2 prep, 1 meeting), which at \$500 per day will involve a payment of \$1500 per meeting (plus travel and subsistence expenses). These are suggested 2014 costs.

ABBREVIATIONS

ATAC: Australian TAC

CAS: Centre for Astrophysics and Supercomputing

CFP: Call for proposals
CoI: Co-investigator
PDF: Portable Document Format
PI: Principle Investigator

STACK: Swinburne TAC for Keck
SUT: Swinburne University of Technology
TAC: Time assignment committee
TS: Technical Secretary

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