

# SUTHERLAND TELESCOPE USER'S COMMITTEE (STUC)

## MINUTES OF THE MEETING ON 30 AUGUST 2016 [HELD VIA SKYPE]

### PRESENT:

Ted Williams (TW) (SAAO Director)  
Ramotholo Sefako (RS)  
Chris Engelbrecht (CE)  
John Menzies (JWM)  
Nadeem Oozeer (NO)  
Quentin Parker (QP)  
Amanda Sickafoose (AS)  
Brian van Soelen (BvS)

### APOLOGY:

Dave Kilkenny

### CHAIR:

Chris Engelbrecht

**Action items (for next meeting) in red**  
**Continuing items in blue**

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1. Welcome
2. Matters arising from the previous minutes

Minutes circulated and approved.

#### 2.1 Election of new members:

Matt Burleigh, Lisa Crause and Hannah Worters elected unopposed, to take the places of John Menzies, Nadeem Oozeer and Amanda Sickafoose on the committee. The election of Matt Burleigh means that the committee will have two international members (Matt Burleigh and Quentin Parker). The committee considered this in light of the STUC Terms of Reference (ToR) and decided that having two international members would not be in conflict with the ToR.

TW will be requested to write the new members an official letter confirming their membership of STUC for the term September 2016 – August 2019.

**Action: CE/TW**

#### 2.2 Website developments:

CE: Editing the website is now straightforward; thanks to SAAO IT for their kind assistance. Access to SAAO publications via the STUC website not clarified yet. CE has been communicating with SAAO Librarian in this regard.

**Action: CE**

CE: Anyone on the STUC mailing list can request removal from the mailing list if they wish.

CE: Latest Minutes (19 February 2016) have been posted on the website.

CE: A link to [www.sao.ac.za/science/facilities/telescopes](http://www.sao.ac.za/science/facilities/telescopes) has been added to the front page.

CE: A link to policy/guidelines re observing Targets of Opportunity also needs to be placed on the website.

**Action: CE**

### 2.3 New vehicles at Sutherland:

TW: NRF has released funding to purchase appropriate vehicles to replace 4-5 of the very old fleet at Sutherland.

**Action: CE:** Write letter of thanks to NRF on behalf of STUC.

### 2.4 Terms of Reference for Astronomy Advisory Council (AAC):

TW: Discussions with Nithaya Chetty (NRF) have been held; no conclusive outcome yet.

### 2.5 ToO (target of opportunity) requests on SAAO telescopes:

Committee resolves to revisit this topic at every meeting. Link the discussion to the process of evolving the telescopes to full automation over time [see point 4 below].

**Revisit at next meeting**

### 2.6 Availability of pipelines for data reduction to SAAO telescope users:

QP emphasises the importance of such a service to observers. Other users have also issued requests for such a pipeline repeatedly.

AS: David Gilbank (SAAO) is willing to help with this for SpUpNIC, but needs clarity on what exactly users need the pipeline to do.

**Action: CE**

BvS: Please compliment David Gilbank on the Quicklook facility on SpUpNIC. It is excellent and very helpful.

QP: Could new SAAO Post-doctoral fellows be drawn in to assist? There is general support in the committee to recommend that a SAAO Post-doc is assigned to this task.

CE: Turkish collaborators have developed a pipeline for radial-velocity analysis of our SpUpNIC data. Will hear if they are willing to share this.

**Action: CE**

RS: STUC should solicit input from users of SpUpNIC as to what they desire from a pipeline.

QP: will be observing with the 1.9 m in November [2016] and will comment.

**Revisit at next meeting**

## 3. Inputs from user community based on previous Minutes:

### 3.1 from MW Feast (UCT):

Potential users of SpUpNIC are still not able to access quantitative data on its performance in real-time observing. Numerical data on wavelength sensitivity and required exposure times as a function of magnitude are required.

AS: For SHOC, this kind of information can already be found on the instrument's webpage. For the spectrograph, it is not straightforward to design a S/N calculator. Lisa Crause (LC) et al. have a SPIE paper out with some detail (2016, SPIE, 990827-1).

CE: The SPIE paper doesn't say enough to fully answer this query.

JM: The more fundamental question is SAAO's commitment to provide instruments for its users. SAAO staff should observe standard stars with the spectrograph to set up a performance table. Could the SALT tools be adapted to SpUpNIC?

AS: LC has done some of this but the reductions are time-consuming.

CE: Could new SAAO PDFs not be used to help with this?

JM: The completion of a useful performance table should be a priority.

AS: We should also request users of SpUpNIC to send us their results to build a bigger database of performance levels.

CE: I will set up a support community of SpUpNIC users.

**Action: CE**

QP: An exposure time simulator would be very helpful. SAAO could look at similar spectrographs elsewhere and see if their calculators could be adapted for SpUpNIC. QP offers to contact LC to discuss this.

3.2 from Patricia Skelton (UNISA):

It would be very helpful if the 1.9 m telescope and its instruments could be automated to a degree where users do not need to travel to Sutherland to get data anymore. Travelling to Sutherland and staying over for a week or two is very costly.

This point is discussed in more detail under 4. below.

#### 4. Automation of the 1.9 m telescope:

QP: Full automation would be very costly. How far should SAAO's responsibilities reach? A proper cost-benefit analysis should be done first. AAO did this [automation] for their 4 m telescope, as did Siding Spring with the 2.3 m one – less successfully. The Sutherland 1.9 m might not be amenable to full automation. Automated imaging alone might be a more feasible target.

JM: It would be a mistake to spend more money on getting full automation of the 1.9 m. The pointing and TCS would probably not allow full automation to be practically achieved.

RS: A local telescope operator would probably still be required.

CE: Still, semi-automated observing (i.e. automated imaging – which doesn't require observer's physical presence at the telescope) would be very helpful to some observers.

#### 5. Efficiency of the 1.9 m telescope following upgrades:

JM: The TCS functionality has been an issue for a long time.

AS: The software engineering requirements are considerable. A new TCS is being developed for the new 1 m telescope. Adaptation to the other telescopes will be explored.

TW: Steve Potter has had some successful results from recent work to automate the driving and pointing.

RS: The telescope has been successfully remotely operated from Cape Town.

6. Telescope status/developments:

RS: Progress has been made in resolving water leaks in the domes, but further work is needed. The current 1.0 m telescope will be brought to the same level of automation as the 1.9 m.

AS: The new 1.0 m telescope has been installed but various commissioning tasks are still underway. Image quality looks very good across whole FoV. We expect it to be opened to users in January 2017.

CE: What is the present procedure for ToO requests?

RS: Still being developed.

CE: Let's have more discussion at the next meeting.

RS: LCOGT: Science collaboration meeting on 8 September.

7. Instrumentation status/developments:

SpUpNIC: Grating brake applied to prevent movement during observations. This seems to have stabilised the grating position, but it prevents a change in grating angle during the night (and, effectively, during the week). There are still some pointing issues. User feedback will be very valuable.

GIRAFFE replacement: on the job list, but needs to wait for other tasks to be completed before this can be done. Hannah Worters will be managing this.

A spectrograph is to be procured for the 1.0 m telescope. User needs should be ascertained.

8. Software developments:

Quicklook is very popular with observers.

Data are now promptly transferred from the instruments to server storage as a backup measure.

9. Status of the STAC:

The new portal for requesting observing time is working well.

DK has replaced AS on the STAC.

Steve Potter, Lerothodi Leeuw and Sudanshu Barway continue as members.

10. Additional items:

10.1 Next meeting: CE will try to schedule this around the second week of December.

Meeting closed.