

## **Operations Working Group Meeting #13**

*(Swinburne University, Melbourne, Australia, 30-31 July 2007)*

***Attending: Bruno Castilho (Brazil), Dennis Crabtree (Gemini), Tim Davidge (Canada), Paul Francis (Australia), Inger Jorgensen (Gemini), Bryan Miller (Gemini), Bernadette Rodgers (Gemini), Marilia Sartori (Brazil), Ilona Soechting (U.K.), Verne Smith (Chair-U.S.A.), Richard Wainscoat (U. Hawaii)***

***Connected via telephone: Sebastian Lopez (Chile)***

### **New Action Items & Resolutions**

**Action Item.13.1:** Bernadette Rodgers, Richard Wainscoat, and Sandy Leggett will work on ways to modify the ITAC Merging Sequence. Richard has noted that round-off errors can affect, especially, the smaller partners. They will investigate use of a fixed, mathematically generated merging sequence and use of variable quanta to make the changes that are necessary each semester to reflect time adjustments that are made to correct for partner imbalances. The start point of the merge sequence will continue to rotate across the partnership.

The aim of these changes is to make the ITAC process fairer and more transparent to all partners, and to make it easier for the NTACs to predict which band a program will be placed in by the ITAC.

**Action Item.13.2:** Inger Jorgensen will add plots of RA distributions onto the public websites for current and previous semesters. The RA distributions will include observations submitted, as well as those observed.

**Action Item.13.3:** Bryan Miller will modify the OT to incorporate the following changes, listed in order of priority:

- 1) update the Phase II checks, such that the PI has an option to not continue to show warnings if they have been shown once, and to allow the NGO contact scientist to turn-off errors.
- 2) allow easier access to the OT libraries.

- 3) add a step called “In Review” to indicate a phase in which the NGO contact is reviewing observations and the PI cannot access and change these observations during the “In Review” process.
- 4) institute “Smart GCAL” observations into the OT.
- 5) continue to improve the Skeletons/Templates, with emphasis on the actual sequences of the observations as organizational folders.

**Action Item.13.4:** Ilona Soechting and Verne Smith will prepare a list of so-called “Hot-Button Items” that can be addressed in order to improve the user community perception of Gemini. This list will be circulated by the end of September.

**Action Item.13.5:** Rachel Mason will re-send an e-mail to the NGOs to remind everyone to read and comment on the new sets of webpages.

**Action Item.13.6:** Bernadette Rodgers and Inger Jorgensen will work with the instrument scientists to ensure that the OT libraries are error-free.

**Action Item.13.7:** Dennis Crabtree will check into rescheduling the weekly Science Staff meetings to 9:00am in the Northern summer and 9:30am in the Northern winter (Hawaii time).

**Resolution 13.8:** The committee recommended that ToO programs will not be eligible for Rollover status.

**Resolution 13.9:** The committee recommended that time lost to interrupted LGS observations will be charged to the partner whose program was being executed at the time.

### **Review of Minutes and Action Items from Meeting #12**

The draft minutes from OpsWG meeting #12, held in January 2007 in La Serena, Chile, were approved.

The action items from meeting #12 were reviewed and the review is summarized below for each item.

**Action Item.12.1:** *Dennis Crabtree will lead the creation of a user feedback questionnaire to be sent to all users who have been awarded Gemini time.*

No progress.

**Action Item.12.2:** *Gemini Observatory will provide to the PIs statistics of 07B programs that are in the queue after the 07B ITAC, and before the 07B Phase-II. The same statistics for 07A will also be provided.*

No progress.

**Action Item.12.3:** *From 07B proposals requesting more than one telescope will not be allowed by any partner. The PIT will have a section allowing users to state that their proposal is linked with others requiring different telescopes.*

Partial progress by Bryan Miller. There remains a bug that allows previously submitted proposals to request more than one telescope.

**Action Item.12.4:** *Verne Smith & Dennis Crabtree to send software which populates observing condition bins during the NTAC process to other interested NGOs.*

Done. The NOAO software is available at <http://www.noao.edu/noaoprop/gemini/binder/>

**Action Item.12.5:** *From 07B Phase-I the NGOs should forward all joint proposals to Gemini after the NTAC, even those that did not get time. These should be forwarded with 0 time and a dummy ranking. This will simplify joint proposal reporting.*

Done.

**Action Item.12.6:** *The Observatory will update the web view of the interactive database so that it shows the date that the PI last stored the program.*

No progress.

**Action Item.12.7:** *Bryan Miller to propagate the minimum useful time from the Band 3 tab to the PIT into the OT.*

Done.

**Action Item.12.8:** *Bryan Miller to investigate software for duplication checking against the GSA and active database. Accessible from the PIT and should generate a warning if duplications found but not addressed by the PI.*

Some parts done, but still in progress, with Kim Gillies also working on this item.

**Action Item.12.9:** *Bryan Miller to modify the OT to allow NGOs to indicate that they have checked the Finding Charts and to allow linking of finding charts with observations.*

Done.

**Action Item.12.10:** *Bryan Miller will investigate the feasibility of improving the Phase-II skeletons given to the PI, both in the short and long term.*

No specific progress, but interest in resolving this item is high and is similar to this meeting's Action Item.13.3.

**Action Item.12.11:** *Gemini will have a deadline for the Gemini contact scientist to check the Phase-II. This will be 3 weeks after the deadline for the NGO to forward the Phase-II to Gemini.*

Done.

**Action Item.12.12:** *The Observatory will review the actual vs. model distributions of observing conditions.*

No progress, but Dennis Crabtree plans to establish a small working group to look into this issue and other aspects of how observing bins are defined.

**Action Item.12.13:** *The NGOs will send suggestions for external reviewers for the NGO review to Dennis Crabtree.*

This task has changed into the "NGO Assessment", being conducted by Dennis Crabtree.

**Action Item.12.14:** *The current and next OpsWG chair will define the agenda for the Gemini-NGO meeting in Brazil.*

Done.

**Action Item.12.15:** *The Observatory will update and improve the mask design checklist, add examples of good and bad masks, and put this on a public web page.*

In progress and almost done—in good shape.

**Action Item.12.16:** *Inger Jorgensen will review the charging for Michelle Compensation Time since 05A, and calculate corrections to bring this into line with the OpsWG resolution 8.1.*

Done.

**Action Item.12.17:** *Inger Jorgensen to write a document outlining the time accounting policies and send it to the OpsWG for review.*

50% done by Inger Jorgensen, but not ready for review.

**Action Item.12.18:** *Bernadette Rodgers will check the effect of changing quanta sizes when implementing Resolution 12.5.*

Experimented with at ITAC (2007B) and this is now part of a larger program being conducted by Bernadette Rodgers, Sandy Leggett, and Richard Wainscoat.

**Action Item.12.19:** *Bryan Miller to create a PIT tab for classical backup programs by 08A.*

Not done due to problems with resource conflicts.

**Action Item.12.20:** *From 07B reminders of the deadline for classical PIs will be sent automatically from the ODB. When automatic reminder is implemented, the classical deadline will be a hard deadline.*

Not done, but manual reminders were sent.

### **Board Resolutions**

Dennis Crabtree presented the resolutions from the May 2007 Gemini Board meeting that was held in Hilo, Hawaii on 15-16 May 2007. A small number of resolutions were highlighted and discussed, which included:

**2007.A.3**, involving the restructuring of the Gemini Science Committee (GSC).

**2007.A.4**, which requests that future calls for proposals state clearly the conditions under which host partners can apply for observing time.

**2007.A.8**, concerning the status of Gemini within Argentina.

**2007.A.16**, approving the Observatory's recommendations for science availability at both Gemini-North and –South for 2008A.

### **ITAC Summary and Actions**

Bernadette Rodgers summarized the 31 May 2007 ITAC meeting held in Honolulu, Hawaii. It was noted that this meeting was a transition between ITAC chairs with Sandra Leggett assuming the chair (from Bernadette Rodgers) and Brian Walls beginning as Technical Secretary (replacing Sybil Adams). All ITAC participants agreed that the new format, allowing for a pre-ITAC telecon which conducted an initial merge and then allowed for one round of partner changes, improved the efficiency of the ITAC meeting.

There was considerable discussion, initiated by Richard Wainscoat, about how the size of the merging time quanta could be affected by round-off errors, that could lead to significant effects in the band structure of observing programs from the smaller partners. It was agreed that improvements to the merging process, mainly through changing the sizes of quanta and the merging order, be investigated by Wainscoat, Rodgers, and Leggett (Action Item.13.1).

It was pointed out by Bernadette Rodgers that the RA distributions of observing targets at both Gemini-North and –South have had adverse effects on the completion statistics for 2007A, as there are far too many targets in certain, small RA bins. It was agreed that monitoring the RA distributions of targets would be useful before ITAC and paying attention to the RA distribution at ITAC should be done. Action Item.13.2 resulted from this discussion and will be a starting point to raise the awareness of Gemini users about the most-requested RAs for the A and B semesters.

The next ITAC meeting, for 2008A, will be held in La Serena, Chile on 27-28 November 2007.

## **Meeting Review**

### **Phase I and Phase II Review**

Dennis Crabtree, Bernadette Rodgers, and Sandy Leggett presented various aspects of 2007B statistics. No major problems were voiced by any of the partners concerning the Phase I and Phase II processes. Ilona Soechting noted that UK astronomers were not using MICHELLE very much and was worried that there is perhaps some underlying problem causing this.

Some highlights of the presentation include the fact that there were a total of 456 Gemini proposals submitted for 2007B, which is 10% lower than in the two previous semesters. It should be pointed out, on the other hand, that the total time requested was about the same. There was good demand for TEXES, with 390 hours requested and there was also healthy demand for LGS, at 380 hours requested. Total oversubscription for 2007B was good, with the US, UK, CA, and UH all having average rates above two.

There was a review of the 2007B “Special Call for Proposals” that was issued to replace the GNIRS time that had been scheduled in 2007B. The response was very large, with over 170 proposals submitted, requesting over 1800 hours, with only about 400 hours needed to fill-in the GNIRS time. The partner NTACS ranked their respective proposals and then forwarded a ranked list to Gemini, where a merging TAC was conducted via telecon.

There was a discussion of the continuing somewhat low demand for both MICHELLE and TReCS and there is a plan to revisit the idea of the 16-night minimum. The demand for exchange time remains healthy, with good Subaru demand on Gemini.

A preliminary telescope schedule for 2007B was presented by Bernadette and Inger.

## **Instrument Review**

Joe Jensen provided a report on the status of various instruments and programs.

**GNIRS:** At the time of the meeting, GNIRS was being shipped to Hilo, where it will be repaired and refurbished. The work is expected to take 8-12 months, with the pacing item being the procurement of a new IR array to replace the array destroyed in the accident. After the repair, GNIRS will be deployed on the Gemini-N telescope, probably in 2008B. It will then have to undergo commissioning at Gemini-N.

**FLAMINGOS2:** The instrument is undergoing system integration and check-out at the University of Florida in Gainesville. The team is now at the point of chasing down a number of relatively small, but nagging problems. It is expected that F2 will undergo Acceptance Testing in 2008A, with

shipment to Gemini-S either in late 2008A or early 2008B. It has not yet been decided whether to conduct a Demonstration Science program or Science Verification.

**NICI:** As of the time of the meeting, NICI had undergone two commissioning runs on Gemini-S. On the second run, the UH deformable mirror was used on the instrument. The M2 vibration issue was addressed successfully. The main issues remaining were high-level software. Additional commissioning time is needed to assess AO performance before the NICI Campaign Science program can begin. There is currently no plan for Science Verification with NICI, while the campaign meets the need of Demonstration Science. It is planned that NICI campaign blocks will be about 2x longer than the time allocated and campaign observations during a given semester will stop when the semester's allotted time is reached.

**Canopus (MCAO):** The DMs have arrived in La Serena, the optical bench and WFS have been delivered; the primary schedule driver is the laser. Its delivery is currently expected for ~April 2008.

**TEXES:** In 2007B, one 16-night run in October is planned.

## **Science Operations Update**

Inger, Bernadette, and Dennis reviewed various aspects of Science Operations with the following a summary and highlights of these discussions.

After summarizing delivered science nights and weather loss statistics, completion rates were summarized. The overall trend from 2003 to 2006 is that completion rates improved markedly. The rates for 2006B and 2007A were somewhat lower, however, there are still rollover programs from these semesters. In addition, the earthquake in October 2006 affected Gemini-N, while the loss of GNIRS impacts Gemini-S. Overall, completion rates are running near 80-90% for Band 1, 55-75% for Band 2, and about 35% for Band 3. The goals are 90% for Band 1 (after rollover period and with 100% of requested data), 75% for Band 2 (with 100% of requested data) and 80-90% with 75% of requested data, and 80-90% of Band 3 (with 75% of requested data).

Detailed acquisition time statistics were presented for all instruments and modes and compared to comparable instruments and observing set-ups for the VLT. Gemini's acquisition times compare very well with VLT and it is planned that these real times will be incorporated into the overheads associated with the various instruments and observing modes.

It was noted that a document is being written that will describe the Gemini Telescope Time charging and accounting in detail. The document will be released to the community after review by the OpsWG and the GSC.

## **Discussion of the 2008A Call for Proposals**

The instruments that will be available in 2008A are summarized below.

Gemini-N: NIRI (with Altair and LGS if requested)  
GMOS  
MICHELLE  
NIFS (with Altair and LGS if requested).

It is planned that 80% of the time (146 nights) will be available for science observations. The Board minimum is 80%, if GNIRS undergoes commissioning at Gemini-N in 2008A.

The 20% (36 nights) to be used for commissioning and engineering will probably breakdown as follows:

- Coating of primary mirror (21n), tentatively set for June 2008.
- Commissioning of GNIRS (10n in queue).
- A&G maintenance (4n).
- Routine and emergency hardware/software maintenance and repairs (including instrument maintenance)—as needed.
- Instrument on-sky check-outs after maintenance or instrument swaps (1n).
- Unused commissioning/engineering is returned to science.

Gemini-S: GMOS  
T-ReCS  
Phoenix.

It is planned that 81% of the time (148 nights) will be available for science observations. The Board minimum is 70%, with the goal being 80%. This takes into account a 12-night NICI campaign (with 18 nights off-the-top).

The 19% (34 nights) of commissioning/engineering is broken down as follows:

- Commissioning of FLAMINGOS2 (up to 18n).
- Laser engineering for MCAO (10n).
- A&G maintenance (4n).
- Routine and emergency hardware/software maintenance and repairs (including instrument maintenance)—as needed.
  - Instrument on-sky check-outs after maintenance or instrument swaps (2n).
- Unused commissioning/engineering is returned to science.

It is not expected that any MCAO commissioning will take place in 2008A.

Time swaps with both Keck and Subaru will continue in 2008A. Up to 5 nights of Keck HIRES time (in classical mode) will be made available in exchange for Keck community access to MICHELLE, NIRI, or T-ReCS. Both Suprime-Cam and MOIRCS on Subaru will be available for up to 5-6 nights (in classical mode) in exchange for Subaru community access to GMOS-N, NIRI, NIFS, ALTAIR/NGS & LGS, T-ReCS, and GMOS-S.

It is planned to limit instrument swaps to two per telescope per semester. On Gemini-N, GMOS-N, NIRI, and ALTAIR will be mounted on the side-looking ports, with NIFS, MICHELLE, and possibly GNIRS sharing the up-looking port. NIFS will occupy the up-looking port from February to early April, with MICHELLE on from early April to early June. After the M1 coating in June, GNIRS will occupy the up-looking port, if ready, in July, or either NIFS or MICHELLE depending on demand.

On Gemini-S, GMOS-S will occupy a side-looking port the entire semester, with T-ReCS on the up-looking port. NICI, FLAMINGOS-2, and GSAOI will populate the other side-looking ports, but with an uncertain schedule that depends on progress for each instrument. Phoenix will occupy the “light” side-looking port, but may be displaced by MCAO commissioning.

Swaps between Phoenix and NICI could be considered depending on necessity and demand.

It was noted that the absolute aggregate partner time imbalances were getting smaller and thus the situation was improving. Brazil remains somewhat of a problem, with about 73 hours of over-usage, which is attributed to relatively large numbers of small Band 3 programs that are completed.

Changes that take place for 2008A include the allowance of classical runs to now be for a minimum of 1 night, instead of the previous lower limit of 3 nights (classical requests must still be for integer nights). Conditions must be specified for classical runs, with the option of a back-up program specified for poorer conditions. In the event that observing conditions are not good enough for either the primary or back-up programs, Gemini has the option of reverting the night to queue observing, with the lost time being charged to the classical program.

### **Semester 2008A Process Dates**

The 2008A Call for Proposals will be posted on 1 September 2007, with the following Phase I/II dates:

1 October: Proposal deadline.

15 November: NTAC packages due.

27-28 November: ITAC Meeting, La Serena.

7 December: Final program list.

12 December: Program lists posted with OT and Phase II skeletons released.

14 January 2008: PI Phase II deadline.

28 January: NGO "For Activation" target date.

1 February: Start of Semester 2008A.

15 February: Queue fully loaded.

### **Gemini Interactions with NGOs and the Community**

Dennis reported on plans to conduct an NGO Assessment of each partner Gemini office. The assessment will gather basic data about each NGO and feedback on their own views, such as how many FTEs define each office, what levels of expertise can each office provide to its users concerning the

various Gemini instruments, observing modes, or data reduction issues, or how much money is provided for support or travel. There was a great deal of discussion initiated by some of the NGO representatives to the OpsWG about what data should be provided for the assessment and how the data would be used. In the end, it was decided to proceed with an assessment, with a questionnaire being sent to the NGOs and Dennis visiting each parter office during the rest of 2007.

Verne presented a brief overview of the Gemini Science 2007 meeting held in June 2007 in Iguacu, Brazil. It was concluded that the meeting was a scientific success with an impressive amount of Gemini science results presented during the course of 65 oral and 40 poster presentations. It was agreed that another meeting, with probably a similar structure, should be planned for 2010.

Dennis next summarized both the Users' Meeting and NGO Meetings that followed the Gemini Science 2007 meeting (all in Iguacu). The Users' meeting agenda contained plenty of time for discussions and the presentations generated considerable discussion on a range of issues, such as future instruments, data reduction, or the entire TAC process. The presentations from the Users Meeting are available at: <http://www.gemini.edu/sciops/ObsProcess/ObsProcUsersMtg.html> .

## **Gemini Visitors**

Dennis reported about Gemini policy concerning visitors of different categories: NGO representatives, graduate students with Gemini programs, queue PIs, and undergraduate or graduate student interns. Gemini is encouraging all types of visitors. NGO visits are important as they provide experience with operations, queue planning, queue execution, and support issues. The optimal time for visits is 10-14 days, with 3-4 nights on the summit.

Students with queue programs are welcome, with suggested 2-4 week visits. With 4 nights on the summit, each student would be able to see queue operations up-close, with the possibility of the student participating in their own queue program. Each student would be assigned a staff contact. Gemini would cover the costs associated with a summit visit.

Queue PI, or co-I visits would allow for better user understanding of queue planning and execution and could be scheduled when probability of executing the visitor's program is high. Nominal visits would again be for 10-14 days, with 3-4 nights at the summit.

An undergraduate or graduate student intern would be a 1-4 month visit, with work on a well-defined project with a staff science member(s). Such a visit would allow time for a student to develop experience in an observatory environment, gain knowledge about observing techniques (as well as queue operations), and learn new skills.

Gemini cannot provide significant funding for these visits, so it is up to the NGOs to explore options for funding.

## **The Dataflow Project**

Dennis presented an update on the Dataflow Project. The longterm goal is to provide data to the astronomical communities, via the GSA or VO, that is of a form that enables efficient scientific exploitation. The creation of a Dataflow Definition Project is underway to define requirements. A plan for implementation is scheduled to be ready by the end of 2007. The data processing group should be fully staffed by the end of December 2007.

## **Next Meeting**

The next OpsWG meeting will be held on 30-31 January 2008 at Hilo, HI in the Main Conference Room of the Gemini Base Facility.