

Gemini Users Committee Report, Meeting August 25-27, 2013

Preface:

The User's Committee for Gemini (UCG) assembled in person at the Gemini Offices in Hilo on August 25-27, 2013. This was intended as the second full meeting of the committee; several members were unable to attend but have participated in drafting this report. The UCG is charged **"To provide feedback to the Gemini Observatory on all areas of its operations that affect current users of the facility, based on the experience of the committee members as well as input collected from the larger community of Gemini users"**. The meeting began with an assessment of nighttime observatory operations, followed by a day and a half of extensive presentations from the observatory, and in camera discussion by the committee. Since the UCG last met in person, the committee has expanded significantly; full membership and attendance are indicated at the end of this document.

Prior to the meeting the UCG solicited input from the community in all partner countries and organizations; the response from the Gemini user communities was modest at best. The assessment of the committee is that this generally reflects contentment of the community with Gemini operations, rather than the apathy of a disinterested community. The withdrawal of the UK from the Gemini partnership has necessitated significant changes at the observatory, some of which must unavoidably impact the user community. The observatory, under the leadership of Dr. Markus Kissler-Patig, has taken these changes as an opportunity to re-invent and improve, and the UCG has been involved in assessing some so-called "high-impact" initiatives.

The meeting included a discussion of observatory response to the prior UCG report; the committee was generally satisfied with the response of the observatory to that document.

The discussions of the UCG are informed by feedback from the community and the UCG members' own experience. This report organizes both commendations and recommendations by broad themes; a longer discussion, on a particular recommendation of the UCG, concludes the main text.

Communication:

In an organization such as Gemini serving a complex overlapping set of communities, communication is challenging. The UCG recognizes this challenge, and continues to seek new ways to facilitate communication between the observatory, NGOs, and the broader community. Specifically:

-the UCG is willing and able to work proactively with the user community to solicit more detailed input. The UCG recommends that Gemini/NGOs provide contact info (which is public) so that the UCG can reach out: most usefully this would include PI name, institution, partner, email, semester, telescope, instrument and mode for completed

programs. An optimal provision of this data going forward would be the complete set at the beginning of each observing semester, once the schedule is fully populated, and with equivalent one-time provision of such information going back several years.

-the UCG recommends that the Observatory work with the UCG and NGOs to promote an awareness of the UCG in the user community. Possible activities include UCG presence at national astronomy meetings, moving UCG contact information on the SciOps page, and continuing publishing UCG information in Gemini-Focus.

-a theme from the prior UCG meeting and user survey was that data reduction workshops have proved to be extremely valuable, and that the information from those workshops should be captured and shared. The UCG recommends that Gemini and NGOs ensure that the next data workshop – scheduled in Australia in 2014 – capture information as much as reasonably possible; this may already be in place. Current indications are that all presentations will be publicized; further attention to this topic is recommended.

-the distilled results from the prior user survey will be published before the end of 2013; this is a responsibility of the UCG chair, not yet fulfilled.

-several users and committee members are still concerned that overheads were large by comparison to other facilities, though the UCG notes that it is unclear whether this is supported by detailed data, and was not unanimous in sharing this opinion. The UCG recommends that the observatory do two things in response to these concerns: 1) make available details of the breakdown of overheads for various observing modes, starting with GMOS, and 2) publish a comparison of Gemini overheads to published overheads at equivalent facilities with equivalent instruments. These data should allow the user community and the UCG to better assess the reality of overhead times against data rather than anecdotal experience.

Data Reduction and Archiving:

The last step in the chain from proposing to papers – that of the reduction and analysis of data – remains one of the central challenges to the scientific productivity of the user community. This was noted in the prior user survey UCG report, and the observatory continues to work, effectively, on this challenge. Some progress has been made, and judging from the UCG's own experiences, and the reported experience of the user community, issues remain.

-the UCG commends the Observatory for the development of a data reduction (DR) Forum platform, but recommends the DR forum not go 'live' until it has been sufficiently populated by content that it has a chance of a successful launch. The UCG recognizes that at least initially the DR Forum will require care and attention from the Observatory, and participation may require incentives.

-the UCG recommends that the Observatory explore the possibility of requiring Large/Long programs to deliver data reduction pipelines in addition to or instead of final

data products, to the DR Forum.

-the UCG notes from current experience that the Data Processing Development group is already sufficiently small that staffing changes already represent a near single-point failure in the release of new software or support of extant capabilities. The UCG is concerned that reduction of the size of the DP group at the Observatory would have a significant impact on the user community, even in the presence of a functioning DR Forum.

-the UCG welcomes the initiative to develop DR cookbooks for the IFU and N&S GMOS observations. These cookbooks would be excellent components of the DR forum launch. The UCG recommends that the next priorities for cookbook development should be the newest instruments (GSAOI and F2), with GPI as a lesser priority. The UCG recommends that the GPI team be encouraged by the observatory to share code through the DR Forum.

-the UCG commends the Observatory for the development of the XDGNIRS tool to streamline GNIRS data reduction. This is a welcome development, and the UCG notes that this would be an excellent launch product for the DR Forum.

Proposing and the OT:

The prior UCG survey of the user community suggested general contentment with the proposal process, and the development of Phase 2 programs (the OT). Nevertheless, significant changes – and potentially significant enhancements – are underway; the UCG has commented on some of these at length in a prior document on high-impact initiatives. As these new programs develop, the UCG will continue to consider possible impacts on the user community.

-the UCG notes progress on Long and Large programs and is in favor of this development.

-the UCG is generally in favor of a fast turnaround TAC process, but continues to be concerned about continuity and fairness of the assessment process as currently suggested. Uniformity of treatment in a given cycle and over multiple cycles should be guiding principles in constructing this new proposal mode.

-the UCG recommends that the Observatory provide clear guidance to the user community on the distinction between DDT and Fast Turnaround programs - perhaps through use-cases similar to those described in the current Large/Long Program documents.

-the UCG recommends that a proper technical assessment is always done before insertion of Fast Turnaround programs into the queue. Considering the short timescale for these proposals, it may not be possible to have the technical assessment completed before scientific review – and this might be too burdensome if the community engages with this

new mode sufficiently - but such a review should be completed and considered before proposals can be scheduled for observation.

--the UCG notes that the time between announcement of ITAC results and the Phase 2 deadline is problematic - in particular for Semester A because of conflicts with academic duties of many users. The UCG recommends that the Observatory seek mechanisms to extend the Phase 2 window by two weeks.

-finally, the UCG commends the Observatory for recent efforts to improve GMMPS and fix known longstanding issues. We await user feedback, and will use the provided PI contact information (see above) to reach out to solicit feedback from current GMMPS users. However, some UCG members noted a continuing missing functionality – defining a slit with a simple mouse click without the need to have an object catalogue, and we recommend this be implemented.

Operations:

-the UCG recommends that the OPS-WG take a further look at ToO execution across Gemini N&S, to ensure best possible execution of time-critical observations accessible from both hemispheres.

-the UCG commends the Observatory for an effective commissioning of GSAOI; the support of reduction software is excellent, and a good example of the user-observatory loop working well. Further development of software for distortion corrections and mosaicking represent an excellent opportunity for seeding the DR forum launch.

-the UCG appreciates the rationale for effort-trading between NGOs and the development of specialization and NGO-focused expertise, and the UCG supports this effort.

-the UCG continues to express concern about potential efficiency losses in the proposed Priority Visitor mode, but notes that this may represent the best possible compromise between impact on Observatory operations and budgetary limits. The UCG is also concerned about potential conflicts of interest between visiting observers and programs of scientific competitors executing in the queue. We encourage the Observatory to develop a policy on this issue and would be happy to provide feedback on it.

-the UCG notes a lack of interaction between the UCG and some NGOs, and would like to see better communication between these bodies. We note that the presence of the OPS-WG chair as a UCG (ex-officio) member has been extremely helpful in communicating some amount of the NGO perspective. The UCG will work directly with individual NGOs to build further communication.

-the UCG commends the Observatory on the implementation of queue eavesdropping. The UCG anticipates further refinement once sufficient experience with queue eavesdropping has been gathered.

-the UCG also commends the Observatory for activity on QAP (Quality Assurance Pipeline), given staffing challenges, and recommends further ongoing effort to release this quick-look data tool to community.

Miscellaneous:

Some user concerns are not easily classified, or not completely within the purview of the UCG. Nevertheless, some themes emerge from discussions with users, and are worth reporting, even if only to provide better opportunities for communication of strategic decisions between the Observatory and user communities.

-the UCG recommends that the Observatory ask the STAC to briefly re-examine and/or reiterate why GMOS does not have an ADC installed. Given that ADCs exist, and a long use history for GMOS also exists, the UCG thinks a brief and public re-examination would be timely.

A Gemini Observing Fellows Program?

The UCG has previously been asked to comment on a change being discussed and implemented at the Observatory, namely the execution of some part of queue observations by visiting astronomers. The current plan for implementing this is so-called Priority Visitor observing. This basic idea begs a fundamental question however: if queue observations are executed by non-Gemini staff, who is responsible for outcomes? The answer must still be “the Observatory”, and indeed no plan under consideration imagines execution of any observing by visitors working *alone*. Given this, the UCG has asked whether the pool of potential outside observers could be expanded, in particular to engage Ph.D. students and postdocs from across the partner organizations.

The vision here is to begin a program which one UCG member called – only mildly in jest - “The Gemini Finishing School for Observational Astronomers”. Imagine that Ph.D. students (and perhaps other interested parties) from across the partners could visit the Observatory for periods of a few months. Imagine further that while at the Observatory, the students received some training in queue observing operations, and acted as members of the queue observing team. This would be best done with students who themselves were using Gemini for approved programs, but this is not strictly necessary. The UCG sees a number of benefits to such a program:

For the Participants:

-the opportunity to receive training and experience at a premier optical/IR telescope. This addresses a long-term problem with queue observing: where does the next generation of optical/IR astronomers gain the required experience to excel?

-the opportunity to meet and engage with peers from other institutions across the partners. This will help seed long-term collaboration and connection across the communities

served by Gemini.

For the Observatory:

-access to a highly motivated pool of talented people, who will bring enthusiasm, and care and attention, to working on queue observing. Done correctly, the UCG thinks that the extra costs would be more than outweighed by FTE savings at the Observatory.

-building a long-term investment by up and coming astronomers in the success and vision of the Observatory. The UCG sees greater user participation at the 'sharp end' of observing as critical to the health of the Observatory.

Thus the UCG recommends that Gemini consider implementing an 'observing fellow' program, where small groups of Ph.D. students – or possibly any interested and funded individuals working in astronomy - would come to the telescope for periods of a few months, be trained in queue operations, and then serve as observers. Such a program would be in addition to, not a replacement for, Priority Visitor mode, but many UCG members think that it would actually be easier to fund long student visits to Gemini compared to the shorter ones envisioned for Priority Visitor mode. In particular, for graduate students or postdocs, the UCG envisions that the participants would continue to be paid by their home institutions, and that the only extra expenses incurred would be travel and housing: i.e. the program should be revenue neutral to the participants (which may require country-by-country adjustments) and a gain for the observatory.

The Gemini User's Committee:

Present:

Mike Gladders (US, Chair) - *University of Chicago*

Vicky Alonso (AR) - *Observatorio Astronómico de Córdoba*

Eduardo Cypriano (BR) - *Universidade de São Paulo*

Craig Heinke (CA) - *University of Alberta*

Armin Rest (US) - *Space Telescope Science Institute*

Tom Richtler (CL) - *Universidad de Concepción*

Mark Ammons (US) - *Lawrence Livermore National Labs*

Pauline Barmby (CA) – *University of Western Ontario*

Mansi Kasliwal (US) – *Carnegie Observatories*

Stuart Ryder (ex officio) - *Gemini Operations Working Group Chair*

Unable to Attend:

Sarah Brough (AU) - *Australian Astronomical Observatory*

Bo Reipurth (UH) - *University of Hawaii*