

# Report of Gemini's Science and Technology Advisory Committee (STAC)

May 2015

The STAC held its eighth meeting on 7-8 May 2015 in Hilo, Hawaii.

## STAC Membership

Alberto Ardila	Paulina Lira (not attending)
Jacob Bean	Kevin Luhman
Guillermo Bosch (remote)	Sarah Martell
Fabio Bresolin	Paul Martini - Chair
Marc Buie	Laura Parker (remote)
Tim Davidge –Vice Chair (remote)	Nathan Smith
Don Gavel (remote)	Gillian Wilson

## Development Priorities

8.1 The STAC endorses the Observatory's prioritization of GHOST as the highest development priority, GIFS/Gen4#3 as the second highest priority, and the GMOS CCD upgrade as the third highest priority.

8.2 The STAC's next highest priority is acquisition of a new laser for GeMS. This new laser is necessary for GeMS to achieve its full scientific potential, given the very poor availability and large operational costs of the current system. The STAC strongly encourages the Observatory to begin this procurement, and emphasizes the necessity of procuring a proven solution.

8.3 The STAC endorses the relative priorities of the remaining items, which were the Small Project Fund and a series of lower-priority programs: the GNIRS controller upgrade, ALTAIR RTC upgrade, NGS2, DM0, and A&G.

8.4 The STAC has observed a fairly consistent pattern over the past few years that the Observatory seems to be resource limited for a number of the top priority items, yet there are resources for lower priority items. The STAC is concerned that the current expertise distribution is not better matched to current priorities, and that this is limiting the highest development priorities.

## GMOS-S

8.5 The STAC is very concerned about the current problems with the GMOS-S detector upgrade, which are substantially affecting the science output of the Observatory. The STAC urges the Observatory to make this a very high priority.

## Small and Midscale Project Funds

8.6 The STAC reaffirms its endorsement of the Small Project Fund. This Fund should help to leverage Gemini resources, as well as increase community involvement in the Observatory.

8.7 The STAC agrees with the Observatory's stated guiding principle that Small Projects should produce a tangible result that enables new science, and that this fund is not intended for design studies for future instruments, nor for data processing software.

8.8 The STAC endorses the Observatory's plan to provide a few high priority projects as examples, and to clearly indicate that other ideas are welcome within the cost envelope for this program. The STAC also encourages the Observatory to use minimal staff involvement as one of the selection criteria, and to clearly communicate this selection criterion in the request for proposals.

8.9 The STAC remains broadly supportive of the Observatory's plan to proceed with a similar, Midscale Project Fund a year after launching the Small Project Fund. Before we endorse proceeding with the Midscale Projects, the STAC would like to review the oversubscription and accepted proposal(s) of the Small Project Fund, the Observatory's examples and prioritization of potential Midscale Projects, and the potential impact of the Midscale Projects on other development priorities.

## **NICI**

8.10 The STAC is happy to hear that an outside team has expressed interest in substantially modifying NICI into a valuable new visitor instrument capability for Gemini. The STAC encourages the Observatory to provide a letter in support of the team's efforts to acquire outside funding to support this work. The STAC does not endorse providing seed funding at this time.

## **Archive**

8.11 The STAC was pleased to see a demonstration of the Observatory's new in-house archive. The new archive offers a number of new features and opportunities for future enhancements.

8.12 The STAC reiterates the importance of the archive as the gateway for observers to obtain their data, and encourages the Observatory to proceed very deliberately with this transition to insure there is no disruption in data access.

8.12 The STAC suggests that the Observatory add the following features to the new archive data system: 1) Searches based on program PI and Cols; 2) Provide and allow searches on original program title, abstract, and other Phase 2 information; 3) Allow filtering based on tracking mode (sidereal vs. non-sidereal).

## **GIFS/Gen4#3**

8.14 The STAC is pleased that the GIFS process is underway, and endorses the proposed process for a Steering Committee to develop the Request for Proposals for Gen4#3 in cooperation with the STAC and Observatory staff. The STAC also looks forward to the GIFS team presentations at the Toronto meeting in June. We recommend the nomination of a STAC member to the GIFS Steering Committee. The STAC also strongly recommends that the steering committee include one or more independent experts on the instrumentation that will be solicited in the Request for Proposals.

## **GRACES and GHOST**

8.15 The STAC is pleased with the demand for GRACES in 2015B. The consensus opinion of the STAC is to continue to recommend that GHOST go to Gemini South, provided GRACES performs as well as indicated by the early standard star tests. The STAC notes that a series of new science verification observations are planned for May 2015, and would like a report on the performance of GRACES at our next meeting.

## **Communication**

8.16 The STAC was concerned that they were not informed of the charge-smearing problem with GMOS. The STAC would like the point of contact for any instrument or capability to be informed if: 1) An issue arises of sufficient importance that it is also communicated to the NGOs or PIs; 2) It does not appear to have an immediate solution, and consequently could affect science for a substantial fraction of the semester.

## **Proposal Modes**

8.17 The STAC reaffirms our endorsement of the Fast Turnaround Program and the Large/Long Program.

8.18 The STAC encourages the Observatory to expand the Fast Turnaround Program to Gemini South.

## **Strategic Vision**

8.19 The STAC is pleased to endorse the latest version of the Strategic Vision with only minor modifications. These modifications are: 1) Removal of item six, with the exception of the adding "Future development should also strive to maximize scientific return relative to the cost" to the end of item seven, as the STAC felt the rest of item six was adequately captured by item seven; 2) Explicitly noting that item 5 is a rank-ordered list.

## **Science Time**

8.20 The STAC endorses the observatory's goal for science time in 2016A: 91% for the South, 96% for the North.

## **Redistribute STAC Points of Contact**

GHOST: Sarah Martell

GRACES: Fabio Bresolin

GMOS: Laura Parker

F2: Kevin Luhman\*

GeMS: Tim Davidge\*

GPI: Jacob Bean

ALTAIR & Gemini North AO: Don Gavel

Gen4#3: Nathan Smith\*

Archive: Paulina Lira

Small Projects:

Default for other issues: Chair

\* indicates this was the STAC member's last meeting

The STAC will identify points of contact for F2, GeMS, Gen4#3, and Small Projects once the incoming members have been confirmed by the Board.

### **Acknowledgement**

The STAC is grateful to Kevin Luhman, Nathan Smith, and Tim Davidge for their many years of service to the committee.

### **Future STAC Meetings**

The 2015B meeting will be Oct 29-30, 2015 in La Serena, Chile.