



## Gemini Observing Opportunities for Semester 2008B

Verne V. Smith

The NOAO Gemini Science Center (NGSC) encourages the US community to take advantage of Gemini observing opportunities for semester 2008B (1 August 2008–31 January 2009). US Gemini observing proposals are submitted to and evaluated by the NOAO Time Allocation Committee (TAC). As this article is prepared well before the release of the Call for Proposals (scheduled on or about February 16), the following list of instruments and capabilities are only our expectations of what will be offered in semester 2008B.

Please watch the NGSC Web page ([www.noao.edu/usgp](http://www.noao.edu/usgp)) for the formal Gemini Call for Proposals, which will list clearly and in detail the instruments and capabilities that will be offered, with a US proposal deadline of Monday, 31 March 2008.

NGSC anticipates the following instruments and modes on Gemini telescopes in 2008B:

### Gemini North:

- Near-infrared Integral Field Spectrometer (NIFS)
- Near Infra-Red Imager (NIRI) and spectrograph with both imaging and grism spectroscopy modes
- Altair adaptive optics (AO) system in Natural Guide Star (NGS) mode, as well as in Laser Guide Star (LGS) mode. Altair can be used with NIRI imaging and spectroscopy and with NIFS integral-field unit (IFU) imaging and spectroscopy, as well as NIFS IFU spectral coronagraphy.
- Michelle, mid-infrared (7–26 microns) imager and spectrometer, which includes an imaging polarimetry mode
- Gemini Multi-Object Spectrograph (GMOS-North) and imager. Science modes are multi-object spectroscopy (MOS), long-slit spectroscopy, integral-field unit (IFU) spectroscopy and imaging. Nod-and-Shuffle mode is also available.
- All of the above instruments and modes are offered for both queue and classical observing. **It is important to note that classical runs are now offered to programs that are one night or longer and consist of integer nights.** The offer of one-night classical runs opens up the possibility of many more Gemini programs being eligible for classical observing, if the program PIs want to use this mode.
- More details on use of the Laser Guide Star (LGS) system can be found at [www.gemini.edu/sciops/instruments/altair/use-lgs](http://www.gemini.edu/sciops/instruments/altair/use-lgs), but there are a few points that are emphasized here. Target elevations must be >40 degrees and proposers must request good weather conditions (Cloud Cover = 50% or better, and Image Quality = 70% or better, in the parlance of Gemini observing conditions). Proposals should specify “Laser Guide Star” in the Resources section of the Observing Proposal. Because of the need for good weather, LGS programs must be ranked in Bands 1 or 2 to be scheduled on the telescope.
- Time trades will allow community access to the high-resolution optical spectrograph, HIRES, on Keck, as well as to the Suprime-Cam wide-field imager and the infrared imager and spectrograph (MOIRCS) on Subaru

### Gemini South:

- Thermal-Region Camera Spectrograph (T-ReCS) mid-infrared (8–26 microns) imager and spectrograph
- Gemini Multi-Object Spectrograph (GMOS-South) and imager. Science modes are multi-object spectroscopy (MOS), long-slit spectroscopy, integral-field unit (IFU) spectroscopy and imaging. Nod-and-Shuffle mode is also available.
- Phoenix, the NOAO high-resolution infrared spectrograph (1–5 microns) is available
- All modes for GMOS-South, T-ReCS, and Phoenix are offered for both queue and classical observing. **As with Gemini-North, classical runs are now offered to programs with a length of at least one or more integer nights.**

Detailed information on all of the above instruments and their respective capabilities is available at [www.gemini.edu/sciops/instruments/instrumentIndex.html](http://www.gemini.edu/sciops/instruments/instrumentIndex.html).

The percentage of telescope time devoted to science program observations in 2008A is expected to be greater than 85 percent at Gemini North and greater than 75 percent at Gemini South.

We remind the US community that Gemini proposals may be submitted jointly with collaborators from other Gemini partners, in which case an observing team may request time from each relevant partner. Multi-partner proposals are encouraged because they access a large fraction of the available Gemini time, thus allowing for larger programs that are likely to have substantial scientific impact. Please note that all multi-partner proposals must be submitted using the Gemini Phase I Tool (PIT).

Note that queue proposers have the option to fill in a so-called “Band 3” box to help optimize the execution of their program if it is scheduled on the telescope in Band 3. Historically, it has been found that somewhat smaller-than-average queue programs have a higher probability of completion if they are in Band 3 and if they use weather conditions whose occurrences are more probable. Users might want to consider this option when they are preparing their proposals.


Efficient operation of the Gemini queue requires that it be populated with programs that can effectively use the full range of observing conditions. Gemini proposers and users have become increasingly experienced at specifying the conditions required to carry out their observations using the online Gemini Integration Time Calculators (ITCs) for each instrument. NGSC reminds proposers that a program has a higher probability of being awarded time and of being executed if ideal observing conditions are not requested. The two conditions that are in greatest demand are excellent image quality and no cloud cover. We understand the high demand for these ideal conditions, but wish to remind proposers that programs that make use of less-than-ideal conditions are also needed for the queue.

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## *Gemini Observing Opportunities for Semester 2008B continued*

There is continuing need for proposals that can be run under the poorest conditions. To help fully populate the queue, a category of “Poor Weather” proposals has been established. Poor weather programs may be submitted for any facility instrument; for these proposals, neither the Principal Investigator nor the partner country will be charged for any time used. For additional information, please see the link at: [www.gemini.edu/sciops/ObsProcess/ObsProcCfP\\_background.html#Poor\\_weather\\_proposals](http://www.gemini.edu/sciops/ObsProcess/ObsProcCfP_background.html#Poor_weather_proposals).

NOAO accepts Gemini proposals via the standard NOAO Web proposal form and the Gemini PIT software. We note to proposers who plan to use the PIT that NOAO offers a tool that allows them to view how their PIT proposal will print out for the NOAO TAC (please see [www.noao.edu/noaoprop/help/pit.html](http://www.noao.edu/noaoprop/help/pit.html)).

Feel free to contact me ([vsmith@noao.edu](mailto:vsmith@noao.edu)) if you have any questions about proposing for US Gemini observing time. 

# An Update on the Status of the UK within the Gemini Partnership and a Look to the Future

*Todd Boroson & Verne V. Smith*

The status of the United Kingdom as a member of the Gemini Observatory partnership has undergone a period of major uncertainty, beginning in November 2007 and continuing into mid-February 2008 (the time of the writing of this *Newsletter* update). The uncertainty began at the November 2007 meeting of the Gemini Board, where the Science and Technology Facilities Council (STFC) of the UK signaled its intent to withdraw from the Gemini partnership prior to the end of the current operating agreement, which expires on 31 December 2012.

This announcement initiated discussion between the STFC, the US National Science Foundation (which is the Executive Agency for Gemini), and the Gemini Board, culminating in a telecon meeting of the Board on 24 January 2008. The result of this Board meeting was that the UK was considered to have withdrawn from the Gemini partnership. The Board also instructed that all previously scheduled UK programs for semester 2008A be removed from the telescope schedule.

Further negotiations ensued between the STFC, Gemini Board, and the NSF. These negotiations led to an announcement on 11 February 2008 in which the NSF and the STFC agreed on terms for discussion of continued UK involvement in Gemini. This agreement of continued discussions led to the provisional reinstatement of UK programs on the telescopes for semester 2008A. The resolution states:

*“Resolution 2008.Feb.09 The Board has received new correspondence from the STFC regarding the UK involvement in Gemini. The UK has committed to continue their Operations payments during 2008, and wishes to open negotiations with the Executive Agency and the Board to explore their options for continued participation in the Gemini Observatory.*

*Therefore, the Board resolves to conditionally reinstate 2008A UK observing time allocations on both Gemini North and Gemini South.*

*The Board asks that the Chair and Designated Members, including the UK, meet face-to-face at the earliest opportunity to further discussion of possible continued UK involvement in Gemini.”*

It is expected that the issue of UK membership will be resolved before the 2008B proposal submission deadline (31 March 2008). Due to the time delay between writing this update and the March 1 mailing of the *NOAO/NSO Newsletter*, we urge the US community to check the NOAO Web site for the latest developments and, in particular, to read closely the 2008B NOAO Call for Proposals.

### **The Long-Term Partnership**

The uncertainty in the future make-up of the Gemini partnership introduced by the membership issue with the UK draws attention to the fact that the composition of the Gemini partnership will quite likely be different in the time frame of the next operating agreement (beginning in 2013).

From the US perspective, we believe that it is in our community’s interest to acquire as large a fraction as possible of the time that may become available due to partnership changes. Gemini time is highly oversubscribed (typically by a factor of 4–6 when calculated as nights requested divided by nights charged); we usually receive as many proposals for Gemini as for the Kitt Peak and Cerro Tololo telescopes combined; and, the community successfully turns Gemini observations into published papers. We also believe that a larger US share will result in a closer connection between Gemini and the US community, and this may affect future decisions about how to operate Gemini and what capabilities to provide. The current Gemini operating agreement expires at the end of 2012, so decisions that are made in the next couple of years will influence Gemini operations throughout the next decade.

These issues are significant ones, and, just as we have argued for the smaller telescopes, we believe that these issues are best considered in the context of the whole US system of ground-based optical/infrared facilities. It seems appropriate to convene a community discussion on exactly this point: What are the capabilities (instruments, observing modes, types of access, numbers of nights) that the community needs on the current generation of large telescopes, and how can Gemini and the non-federally-funded facilities best address these needs? This becomes the large-telescope version of the ReSTAR committee, and we are in the process of establishing this panel to solicit broad community input and to provide such a report by the end of 2008. Again, watch the NOAO Web site for the latest developments.

## The Gemini-Subaru Time Exchange Program: Additional Observing Opportunities for the Gemini User Community

*Verne V. Smith*

The NOAO Gemini Science Center (NGSC) would like to remind US astronomers of the Gemini-Subaru time exchange program. This agreement exchanges classical observing time at Subaru for classical observing time at Gemini.

This program is currently in operation for semester 2008A and will continue for 2008B. The Subaru instruments currently available to the Gemini community are Suprime-Cam (wide-field optical imaging) and MOIRCS (near-infrared imaging and multi-object spectroscopy). In exchange, the Subaru community has access to both GMOS instruments (North and South) and NIFS. Joint proposals for Gemini time between the Japanese community and Gemini partners are permitted and encouraged. For more

information on applying for time on Subaru through Gemini, see the Exchange Time section on the Call for Proposals Supporting Information Web page ([www.gemini.edu/sciops/ObsProcess/ObsProcCfP\\_background.html#Exchange\\_Time\\_](http://www.gemini.edu/sciops/ObsProcess/ObsProcCfP_background.html#Exchange_Time_)).

Keep an eye on both the Gemini Web site ([www.gemini.edu](http://www.gemini.edu)) and the NGSC Web site ([www.noao.edu/usgp](http://www.noao.edu/usgp)) for current information about the Subaru exchange program. Semester 2008B proposals to NOAO will be due 31 March 2008, so US users interested in applying for Subaru time should keep this agreement in mind when planning their 2008B proposals. Questions about the Subaru exchange program can be directed to me ([vsmith@noao.edu](mailto:vsmith@noao.edu)).

## Classical Observing Available with Gemini Observatory

NOAO users should be aware that they can request classical observing programs with the Gemini telescopes. The only requirement is that such programs must be at least one night long. This option opens up the possibility of many Gemini programs being eligible for classical observing time if so desired by the Principal Investigator. Please note that classical proposals must request integer nights.

A second point to note is that classical proposers must specify both the observing conditions required to achieve the primary scientific goals of the program and an alternative set of poor-weather observations. During the classical run, if conditions are worse than those required by the main or alternate program, the time may be used for queue observations. In such an event, the classical time will not be rescheduled.

*-Verne V. Smith*

# NGSC at the January 2008 AAS Meeting in Austin

*Ken Hinkle & Sally Adams*

The NOAO Gemini Science Center (NGSC) raffled off a \$250 Amazon gift certificate at the January 2008 AAS meeting in Austin. Entry into the raffle required filling out an anonymous questionnaire that elicited feedback on observing with Gemini. There were over 200 entries into the lottery. At 2:00 pm on Friday, several of the NGSC staff randomized the lottery cards, and Nicole van der Blik of NOAO South drew out the winning ticket. The ticket belonged to Matt Richter of the University of California, Davis.

NGSC greatly appreciates the time and effort that many of you spent in filling out the questionnaire. We were heartened to learn that 73 percent of the respondents were aware that NOAO is the gateway for the US astronomical community to the 8.1-meter International Gemini Observatory telescopes, especially since 46 percent of these respondents have never applied for Gemini telescope time. A more detailed discussion of the results gleaned from the questionnaires will be posted on the NGSC Web site in the near future and will be presented in a future *NOAO/NSO Newsletter* article. The raffle, along with other items such as updating our Web site ([www.noao.edu/usgp/](http://www.noao.edu/usgp/)), was part of a continuing effort to inform the community of our role.



NGSC raffle winner Matt Richter at Gemini North during a very cold, snowy TEXES engineering run in February 2006.

Photos from the NOAO booth at the January 2008 AAS Meeting in Austin. Clockwise from lower-left corner: Bob Blum helping Douglas Richstone (University of Michigan) with his Phase II; Dara Norman helping Marcel Agüeros (Columbia University) with his Phase II; activity at the NOAO booth (NGSC is on the left and DPP at the far right); raffle frenzy; Verne Smith talking to David Ciardi (Caltech); Ken Hinkle helping Sean Brittain (Clemson University) with his Phase II; Dara Norman chatting with Ulysses Sofia (Whitman College); and in the center, Nicole van der Blik draws the winning NGSC raffle ticket.



# The Updated NGSC Web Site

Sally Adams

The NGSC Web site ([www.noao.edu/usgp/](http://www.noao.edu/usgp/)) has been updated and rearranged with the goal of making it more user friendly. The new list of links is shown in the accompanying screen capture image, and several links are highlighted below.

**What is NGSC?** links to a page ([www.noao.edu/usgp/ngsc.html](http://www.noao.edu/usgp/ngsc.html)) that contains information at a glance about who we are, what we do, recent news, support staff contact information, proposals, the Gemini HelpDesk, the Gemini Science Archive, publications (US Gemini and Gemini), and NGSC in the *NOAO/NSO Newsletter*. Articles in the newsletter are a primary vehicle by which much information about Gemini is communicated to the US community. If you click on “Recent Issues,” you can easily scroll through the list of articles in each issue to find items of interest to you.

**NGSC Instrument Pages** links to a page ([www.noao.edu/usgp/instruments.html](http://www.noao.edu/usgp/instruments.html)) that lists current, retired, and next-generation Gemini instruments. The former are grouped as mid-infrared (mid-IR), near-IR, optical, and time-exchange instruments. Each Gemini instrument has links to the corresponding Gemini Web page, as well as any available US Gemini publications and NGSC brochures, posters, and newsletter articles.

**US Publications** links to a page ([www.noao.edu/usgp/usgp\\_publications.html](http://www.noao.edu/usgp/usgp_publications.html)) that lists US Gemini publications by instrument. The page also contains a link to all papers based on Gemini Data, i.e., the Gemini Publications Web page. The “What is NGSC?” page has links to both of these pages, as well as to the general Gemini acknowledgment text and the specific Phoenix acknowledgment text.



**NGSC Staff and Organization** links to a page ([www.noao.edu/usgp/staff.html](http://www.noao.edu/usgp/staff.html)) that lists the members of the US Gemini Science Advisory Committee, and US representatives to the Gemini Science Committee and the Gemini Board.

**NGSC Meetings and Workshops** links to a page ([www.noao.edu/usgp/calendar.html](http://www.noao.edu/usgp/calendar.html)) that lists recent meetings sponsored by NGSC and/or attended by NGSC staff.

Please take a minute to check out [www.noao.edu/usgp/](http://www.noao.edu/usgp/) and send us your feedback ([sadams@noao.edu](mailto:sadams@noao.edu) or [usgemini@noao.edu](mailto:usgemini@noao.edu)). We would appreciate your comments.

# NGSC Instrumentation Program Update

Verne Smith & Mark Trueblood

The mission of the NGSC Instrumentation Program is to provide innovative and capable instrumentation for the two Gemini 8.1-meter telescopes in support of frontline science programs. This article gives an update on the progress made last quarter with Gemini instrumentation being developed under the oversight of the NGSC.

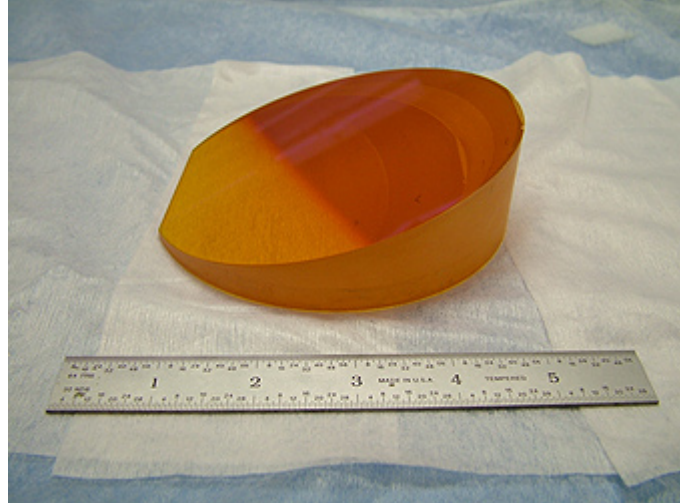
## FLAMINGOS-2

*FLAMINGOS-2 is a near-infrared, multi-object spectrograph and imager for the Gemini South telescope. FLAMINGOS-2 will cover a 6.1-arcmin-diameter field at the standard Gemini f/16 focus in imaging mode and will provide multi-object spectra over a  $6.1 \times 2$ -arcmin field. It will also provide a multi-object spectroscopic capability for Gemini South's multi-conjugate adaptive optics system. The University of Florida is building FLAMINGOS-2 under the leadership of Principal Investigator Steve Eikenberry.*

The NGSC held a quarterly review of the FLAMINGOS-2 instrument with the University of Florida team on January 30 at Gainesville. Shortly before this meeting, the Instrument Team reported progress in integration and testing of the instrument.

For the past few months, the Instrument Team has had problems in cooling the MOS Dewar. As each suspected cause was found and corrected, it was discovered not to have solved the problem, so the search for the culprit continued. Finally, the team was able to trace the cause to a thermal problem in the G10 ring that isolates the bench from the external ambient environment. By placing an additional thermal insulator between the end of the G10 ring and the bench, the thermal specification for the bench was achieved.

The figure shows the ZnSe prism for the  $R \sim 3000$  grism that was delivered to the University of Florida two days before the January



ZnSe prism to be used in the  $R \sim 3000$  grism for FLAMINGOS-2. The ruler indicating the scale is labeled in inches.

quarterly review. This completes the delivery of all optics for the instrument. This prism is a critical component of the grism, which will enable many of the exciting science programs that motivated the design of this instrument. It is now straightforward to complete fabrication of mounting hardware based on the as-built characteristics of the prism and to complete assembly of the air-spaced grism.

Additional progress was made with cleaning up software and electronics issues, which should help in making the Pre-ship Acceptance Tests go smoothly. Due to the aforementioned MOS Dewar issues, these tests are expected to be delayed from late spring into summer.

As of January, the University of Florida team reports that 95 percent of the scheduled work for FLAMINGOS-2 final acceptance by Gemini has been completed.