Semester 14B Call for Proposals

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Gemini Observatory invites its community to propose scientific investigations for the 2014B semester, 1 August 2014 - 31 January 2015.

The submission deadline <u>varies with partner</u> and ranges from MONDAY, MARCH 31, to TUESDAY, APRIL 1. Multipartner joint proposals should be submitted by the deadline of the partner country to which the Principal Investigator is affiliated. Large and Long Program Proposals, and proposals for exchange time on Gemini from the Japanese community should be submitted by the <u>Gemini Staff proposal deadline</u>, **March 31, 2014 at 23:59 HST (Hawaii-Aleutian Standard Time)**. An <u>overview of the Gemini proposal submission process</u> is available.

The Call is open to all partners and host institutions : <u>Argentina</u>, <u>Australia</u>, <u>Brazil</u>, <u>Canada</u>, the <u>US</u>, <u>Chile</u> and the <u>University</u> <u>of Hawaii</u>. <u>US time is open to all astronomers</u> including those at non-US institutions, although in that case the proposal must explain why U.S. national facilities are needed. The distribution of time across the partners is available in <u>the time</u> <u>distribution table</u>. The primary 2014B Call for Proposal pages are available as a <u>pdf document</u>.

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What's New in 2014B!

The following capabilities and announcements are new for the 2014B semester. Please see the relevant instrument pages and section of the call for proposals for details.

- Updated IQ20 image quality constraint: The IQ20 image quality observing condition constraint has been updated to better reflect actual image quality statistics at our observing sites. The integration time calculators have been updated to reflect this change.
- GPI will be offered for use at Gemini South in 2014B.
- <u>GMOS-S</u> will feature new Hamamatsu CCD detectors, pending commissioning in July.
- New Opportunity: <u>Bring one, get one!</u> In 2014B, Gemini Observatory will subsidize, with up to US\$2000, the travel expenses of individual under- and graduate students visiting Gemini North or South, when accompanying a senior observer.
- <u>Large and Long Programs</u> proposals will be accepted for observations beginning in 2014B.

Summary of 2014B Gemini Capabilities

Gemini North

Target are generally limited to 17 < RA hours < 13.5 and -37 < dec degrees < +90. In some cases there are additional constraints as described below and in the target and instrument accessibility page.
Facility instruments offered in 2014B, in queue or classical mode, are:

<u>GMOS North (0.36-0.98 micron imager and spectrometer)</u>: available throughout the semester.
<u>GNIRS (1-5 micron spectrometer)</u>: available from October 6 through the remainder of the semester, limited to RA 21h to 13.5h.
<u>NIFS (0.95-2.40 micron integral field unit spectrometer)</u>: available throughout the semester.
<u>NIRI (1-5 micron imager)</u>: available throughout the semester.

<u>Altair (facility Adaptive Optics system)</u>: with NIFS, GNIRS and NIRI (except M-band), limited to RA 18h to 12.5 h and Dec -27° to +68°. Laser guide star AO is available in queue mode only. Please be aware of current <u>observational limitations</u> and overheads to the LGS+P1 "super-seeing" mode.

- **DSSI Speckle camera:** a dual-channel visual-wavelength camera giving simultaneous diffraction limited images in two filters over a 2.8 5.6 arcsecond field of view. Up to 100 hours, subject to demand, are available during July 17-27, limiting RAs to 15h to 1h.
- **TEXES**: a high resolution (R ~4,000-100,000) mid-infrared (5-25 micron) spectrometer. Up to 100 hours, subject to demand, are available during August 7-17, limiting RAs to 16h to 3h.

Gemini South

Target are generally limited to 16 < RA hours < 12 and -90 < dec degrees < +28. In some cases there are additional constraints as described below and in <u>the target and instrument accessibility page</u>.
Facility instruments offered in 2014B, in queue or classical mode, are:
<u>GPI (Adaptive Optics 0.9-2.4 micron imaging/polarimeter/integral-field spectrometer)</u>: offered in shared-risk mode throughout the semester. For nominal performance, GPI is restricted to <u>observing constraints</u> of CC50 and IQ70, and a maximum Zenith angle of 40 degrees, which restricts declinations to -80° to +20°. Owing to additional commissioning work at the start of the 2014B semester, targets are limited to RAs from 19h to 11h. Please also note the special GPI target

- <u>FLAMINGOS-2 (0.9-2.4 micron wide-field imager and spectrometer)</u>: offered in imaging and long-slit modes throughout the semester. MOS mode is not offered at this time. Investigators should refer to the <u>instrument status</u> page for the most up to date information on delivered image quality and spectral resolution.
- GMOS-South (0.36-0.93 micron imager and spectrometer): available throughout the semester

with the new Hamamatsu CCDs, pending commissioning in July. See the <u>Status and Availability</u> page for updates. Investigators should use the new Hamamatsu CCD option when using the GMOS-S ITC.

 GSAOI (0.9-2.4 micron adaptive optics imager) with the GeMS Adaptive Optics system:: targets are restricted to RA 19h to 11h and Dec -75° to +15°, and there are important <u>guide star</u> <u>limitations</u>. Investigators must check the availability of Guide Star constellations using the Observing Tool before submitting a proposal. Observations in IQ85 are possible for programs that can use <u>delivered images</u> with full-width half-maximum ~0.2 arcseconds as opposed to the ≤ 0.1 arcseconds delivered in IQ70 or IQ20 conditions. Proposals requesting IQ85 constraints are encouraged. Laser guide star Adaptive Optics is available in queue mode only.

Large and Long Programs

Large and long Programs (LPs) are Principal Investigator-defined and -driven programs that are expected to require either significantly more time than a partner typically approves for a single program, or extends over two to six semesters, or both. The participating partners (US, Canada, Australia, and Argentina) will make up to 20% of their time at each

telescope available for LPs over each of the next 6^{*} semesters from the start of LP execution in 2014B. Principal Investigators of LPs must be based at an institution of one of the participating partner countries. Investigators submitting Proposals for LPs, to begin execution in 2014B, must have already submitted a letter of intent prior to the February 3rd, 2014, deadline. Further information on LPs and the LP proposal process can be found on the Large And Long Program page.

* - Australia agrees to participate in the LP process through 2015, and Australian PIs are eligible for programs that will conclude by the end of 2015.

Instruments and Modes Not Offered in 2014B

- The <u>R600 grating in GMOS-North and GMOS-South</u> will be available for classical programs only. This grating is <u>used infrequently</u> and is difficult to schedule in the queue.
- As in past semesters, <u>NIRI</u> is not available for spectroscopy.
- FLAMINGOS-2 MOS mode is not offered at this time.
- The use of the GPI Non Redundant Mask is not offered at this time.
- The following instruments are not offered in 2014B (and have been retired): <u>Michelle</u>, <u>NICI</u> and <u>T-ReCS</u>.

The deadline for Phase I submission <u>varies with partner</u> and ranges from MONDAY, MARCH 31, to TUESDAY, APRIL 1. <u>Poor weather</u> and <u>Director's Discretionary Time</u> proposals are accepted at any time via the <u>Phase I Tool</u>. For successful proposals, both queue and classical, the <u>Phase II</u> submission deadline is 15 JULY, 2014. More information is available in the <u>2014B schedule</u>.

Phase I Tool for 2014B

Proposals for time on Gemini, and for time on Subaru via the Gemini-Subaru exchange program, must use the Gemini <u>Phase I Tool (PIT)</u>. Latex and Word <u>templates are available</u> to create a pdf attachment which includes the science and technical cases. The requested time for the visitor instruments should include all required calibrations (unlike the facility instruments where the time required for a specified set of <u>baseline calibrations</u> should not be included). Investigators are strongly encouraged to include the output from the <u>integration time calculators</u> in the proposal. See the <u>PIT page</u> for installation information and the <u>help pages for the PIT</u> for assistance.

Time Available in 2014B

The time available for each partner and host institution in 2014B is shown on the <u>time distribution page</u>. The science time available at each telescope includes a 7% Director's Discretionary Time allocation. Currently, the Director makes <u>5%</u> <u>available for staff use</u> via the Call for Proposals, while 2% will be available to all astronomers through the <u>Director's</u> <u>Discretionary Time proposal process</u>. At Gemini North, 163 nights are expected to be available for science. At Gemini South, 153 nights are expected to be available for science.

Exchange Time

A minimum of 5 classical nights are available on Subaru in Semester 2014B.

• Proposals should be submitted via the normal <u>Gemini Phase I process</u>. Pls in the Gemini community who intend to use the Subaru telescope are encouraged to apply through the time-exchange program and not through the open use Subaru Call. Subaru Observatory staff request that any Pls with direct access to Gemini not request time on Gemini via the Subaru exchange program.

• Time must be requested in integer nights, and runs will be evenly distributed across dark, gray and bright nights.

- See the <u>Subaru Call for Proposals</u> for important information. Notes on capabilities follow:
 - COMICS (mid-infrared camera and spectrometer) is available.
 - FMOS (near-infrared fiber-fed multi-object spectrometer) is available in shared-risk mode only.
 - FOCAS (optical camera and spectrograph) is available.
 - HDS (optical high dispersion spectrometer) is available.
 - <u>Hyper Suprime-Cam (very wide field optical to far-red imager)</u> is available in shared-risk mode using *grizy* filters only. The number of HSC nights is limited to a few nights for the Gemini community in 2014B.



Bring One, Get One: Student Travel Assistance Program

The Gemini Observatory, at the request of its Users' Committee, would like to strongly encourage the visit of students to observing runs (attending Queue, Classical, or Priority Visiting Observing). In semester 2014B, the Gemini Observatory will subsidize with up to US\$2000 the travel expenses of individual under- and graduate students visiting Gemini North or South, when accompanying a senior observer. Please contact the Director or Deputy Director if you would like to make use of this opportunity.

Remote Eavesdropping

<u>Remote Eavesdropping</u> will be available in 2014B for all Band 1 and 2 programs, except for GSAOI programs. Investigators will be invited to eavesdropping via the PI email announcing they have been granted time.

Additional Information

Please see the page of supporting information for additional general information. Prospective users should also refer to

the <u>target and instrument accessibility page</u>, and <u>the instrument pages</u> for detailed and up to date information on instrumentation.

Questions and Answers

All questions concerning proposals, or any other subject, should be made using the <u>Gemini HelpDesk</u>. This web-based system will send the request to your National Gemini Office staff in the first instance who will then escalate it to Gemini staff if necessary.

Comments and suggestions on the format and content of this page and supporting pages are welcome, and should be sent to <u>Steve Margheim</u>.

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Gemini Observatory: Exploring The Universe, Sharing its Wonders Semester 2014B Important Dates

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Key dates and events in the proposal process are shown below. The Phase I and Phase II deadlines are highlighted.

Date	Event	Comments	
31 March - April 1, 2014 <u>(varies with partner)</u>	Proposal deadline	Proposals received by <u>National Gemini Offices</u> (NGOs).	
Late April/Early May (set by partner)	LPTAC, NTAC meetings	Scientific assessments by each Gemini partner ("National TAC") and the Large and Long Program TAC.	
12 to 14 May 2014	E-transmission	Electronic transmission of proposals to Gemini from NTACs.	
22 May 2014	ITAC	International Time Allocation Committee meets to resolve issues and recommend programs.	
28 May 2014	Final queue/schedule, and ITAC & Gemini feedback to NGOs	After approval by Gemini Director.	
13 June 2014	14B schedule and Phase IIs available	2014B OT templates available to PIs.	
1 July 2014	Phase II reviews start	The response time is 7 days for checking by NGOs (from "For Review") and by Gemini CSs (from "For Activation").	
15 July 2014	Phase II deadline	PI deadline for submission of completed Phase II Programs to National Offices (earlier submission is encouraged).	
30 July 2014	"For Activation" deadline	NGO deadline for submission of completed Phase II Programs to Gemini.	
1 August 2014	Start of semester 2014B	2014B programs may be observed earlier to fill queue nights.	

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Semester 2014B Time Distribution

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Overview

The time available on each of Gemini North and South is distributed according to the <u>Observatory partners' shares</u>. To maintain overall balance amongst the partnership, the allocations are adjusted each semester as a result of actual time charged in prior semesters. The allocations are approved at the Operations Working Group meeting prior to the Call. Historically, around 5% of each semester's science time is used to complete highly ranked programs from the previous two semesters to which the ITAC granted rollover status. This time is included in the time distributions given below.

The science time available at each telescope includes a 7% Director's Discretionary Time allocation. Currently, the Director makes <u>5% available for staff use</u> via the Call for Proposals, while 2% will be available to all astronomers through the <u>Director's Discretionary Time proposal process</u>. The estimated time available for each partner and host institution in 2014B is shown in the Tables below. The number of nights is approximated by int(hours/10).

Gemini North: Time Availability and Distribution

The planned time available for science use at Gemini North is 88.5% of the total time available in 2014B, which amounts to a minimum of ~163 nights. This time includes time used for queue and classical observations, large and long programs for participating partners, weather loss, and time lost to faults. A total of 15 nights of the science time have been reserved for Director's Discretionary Time, as well as time for system verification and demonstration science of new instruments and modes. A total of 21 nights of the total available time have been reserved for engineering; this includes a 14 night shutdown, engineering time in the queue, and instrument performance monitoring. All unused engineering time will be returned to science.

Partner	Estimated Hours Available	
US	859*	
Canada	231*	
Australia	99*	
Brazil	73	
Argentina	43*	
Univ. of Hawaii (host)	176	

* - The total time available for the United States, Canada, Australia, and Argentina includes time allocated through the Large and Long Program process.

Gemini South: Time Availability and Distribution

The planned time available for science use at Gemini South is 83% of the total time available in 2014B, which amounts to a minimum of ~153 nights. This time includes time used for queue and classical observations, large and long programs for participating partners, weather loss, and time lost to faults. A total of 28 nights of this time have been reserved for Director's Discretionary Time, GSAOI guaranteed time, the GPI Campaign, and GPI guaranteed time. A total of 31 nights

of the total available time have been reserved for engineering; this includes a 16 night shutdown, engineering time in the queue, instrument performance monitoring, and commissioning for new instruments and modes. All unused engineering time will be returned to science.

Partner	Estimated Hours Available	
US	727*	
Canada	191*	
Australia	87*	
Brazil	60	
Argentina	35*	
Chile (host)	154	

* - The total time available for the United States, Canada, Australia, and Argentina includes time allocated through the Large and Long Program process.

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2014B Instrument Availability and Target Accessibility

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This page provides best estimates, at the time of the Call for Proposals, of instrument availability and target (RA, dec) restrictions for 2014B.

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- Instrument and Instrument Configuration Restrictions
- <u>Non-Sidereal Targets</u>
- Gemini North
- Gemini South
- Graphical Illustration

Instrument and Instrument Configuration Restrictions

At each Gemini telescope, instruments are mounted at the Cassegrain focus on the <u>instrument support structure (ISS)</u>. A science fold mirror mounted inside the ISS can be rotated to send the light from the telescope to any of four side-looking ports, or can be retracted so that the light goes to the up-looking port. At each site, the calibration unit and the Adaptive Optics system use two of the side ports, leaving two side-looking and one uplooking port for other instrumentation. As more than three instruments are offered each semester, instrument swaps will be required and not all instruments will be available for the entire semester. Instrument swaps will be driven by demand and scheduled to minimize impact on the queue. Certain targets or entire programs may not be feasible once the final schedule is determined, at ITAC or thereafter. If an instrument is requested for less than 6% of the Bands 1+2 time, the Observatory reserves the right to limit the RA range available to programs, or to not schedule the instrument. Changes to the instrument mounting are not permitted during classical runs.

Non-Sidereal Targets

Non-sidereal targets can have a broader range in RA than indicated in the Tables below due to, for example, the need to observe comets relatively close to the Sun. The ephemeris for any submitted target however must include a position that is accessible between evening and morning twilight at some point in the semester. For rapidly moving targets PIs should specify in the proposal when the target is accessible, and the coordinates of the target at that time, so that the observation can be checked for feasibility.

Gemini North Instrument Availability and Target Accessibility

All instruments are restricted for sky visibility as described in the Table and Figure below. In addition:

- <u>GNIRS</u> will only be available from October 6 through the remainder of the semester, after engineering work on the instrument has been completed. Targets are therefore limited to RA 21h to 13.5h.
- <u>DSSI Speckle Camera</u> will be available for up to 100 hours, subject to demand, from 17-27 July, 2014; targets are therefore limited to RA 15h to 1h.
- <u>TEXES</u> will be available for up to 100 hours, subject to demand, from 7-17 August, 2014; targets are therefore limited to RA 16h to 3h.
- The Laser Guide Star (LGS) system must be used at or above 40 degrees elevation. How this translates into RA and dec restrictions is indicated in the Table.

	Accessible	Restricted**	Inaccessible
Declination, non-LGS	-30° to +73°	-37° to -30°, +73° to +90°	< -37°
Declination, LGS	-22° to +65°	-27° to -22°, +65° to +68°	< -27° and > +68°
Right Ascension, non-LGS	19h to 11h	17h to 19h, 11h to 13.5h	13.5h to 17h
Right Ascension, LGS	20h to 10h	18h to 20h, 10h to 12.5h	12.5h to 18h
Right Ascension, GNIRS	22h to 11h	21h to 22h, 11h to 13.5h	13.5h to 21h
Right Ascension, DSSI	16h to 0h	15h to 16h, 0h to 1h	1h to 15h
Right Ascension, TEXES	17h to 2h	16h to 17h, 2h to 3h	3h to 16h

^{**}Due to limited sky availability during the semester, GMOS MOS programs requiring pre-imaging should not have targets in this region, and other programs with targets in this region should not require a large amount of time, or have strict timing or observing constraints.

Gemini South Instrument Availability and Target Accessibility

All instruments are restricted for sky visibility as described in the Table and Figure below. In addition:

- Observations using <u>GeMS</u> are restricted to greater than 45 degrees elevation. How this translates into RA and dec restrictions is indicated in the Table.
- Owing to additional commissioning work at the start of the 2014B semester, targets for <u>GPI</u> are limited to RAs from 19h to 11h. For nominal performance, GPI targets are restricted to a maximum zenith distance of 40 degrees, translated into dec restrictions in the Table below.

	Accessible	Restricted**	Inaccessible
Declination	-87° to +22°	-90° to -87°, +22° to +28°	> +28°
Declination, GSAOI + GeMS	-70° to +10°	-75° to -70°, +10° to +15°	< -75° and > +15°
Declination, GPI	-75° to +15°	-80° to75°, +15° to +20°	< -80° and > +20°
Right Ascension	19h to 9h	16h to 19h, 9h to 12h	12h to 16h
Right Ascension, GSAOI + GeMS	20h to 8h	19h to 20h, 8h to 11h	11h to 19h
Right Ascension, GPI	20h to 9h	19h to 20h, 9h to 11h	11h to 19h

^{**}Due to limited sky availability during the semester, GMOS MOS programs requiring pre-imaging should not have targets in this region, and other programs with targets in this region should not require a large amount of time, or have strict timing or observing constraints.

Graphical Illustration



<u>Figure 1:</u> Schematic representation of target accessibility at Gemini North during semester 2014B. Green regions offer unrestricted access, red regions are inaccessible. Hatched areas indicate the more restricted LGS regions. The yellow region is possible, but restricted. See text, and values in the <u>Gemini North</u> Table above.



<u>Figure 2:</u> Schematic representation of target accessibility at Gemini South during semester 2014B. Green regions offer unrestricted access, red regions are inaccessible. Hatched areas indicate the more restricted GeMS regions. The yellow region is possible, but restricted. See text, and values in the <u>Gemini South</u> Table above.

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