

NOAO Call for Proposals: Semester 2016B

This document covers the observing time period from 1 August 2016 – 31 January 2017. Proposal Deadline: 31 March 2016 at 11:59 pm Mountain Standard Time. This document is also available as an [HTML web page](#).

1. General Information on NOAO Observing Proposals

Proposals for standard observing programs at all ground-based facilities coordinated by NOAO, which include US time on the telescopes of Gemini, CTIO, and KPNO, as well as community-access time with private observatories, can be submitted twice per year. For the 2016B semester, the deadline is:

Standard Programs: 31 March 2016 deadline for the 1 August 2016 – 31 January 2017 observing period (2016B)

Below we give a short description of the different NOAO proposal types.

Standard Programs are traditional proposals for observing time allocated on a semester basis. Standard proposals generally request modest amounts of time, although requests for long runs are also considered. Standard programs are judged by one of seven TAC panels, each with five members plus a non-voting Chair. The Chairs present the proposal rankings made by the panel members at the meeting where the proposals are merged into a single ranked list.

Long Term Status for Standard Proposals are for scientific programs that, by their design, need to extend beyond a single semester. Long-term status may be granted to a proposal for which the principal science goal of the proposal cannot be achieved without the full allocation of time. An investigator who wishes to request long-term status should include a summary of the request (e.g., "six nights per semester for four semesters") in the appropriate section of the proposal form.

If long-term status is granted, a progress report must be submitted each subsequent semester to inform the TAC that appropriate progress is being made. Progress reports should briefly summarize the scientific justification, provide a detailed discussion of progress to date, restate the number of observing runs still needed to complete the project, and give details needed for scheduling the proposal in the next semester.

Although the granting of long-term status by the TAC does carry with it a commitment for observing time in future semesters, NOAO reserves the right to terminate long-term status on the advice of the TAC if insufficient information concerning the progress of the project has been supplied by the Principal Investigator or in the event of telescope closures.

NOAO Survey programs can be carried out using the telescopes at KPNO and CTIO, although for the last Survey call, only CTIO-4m/DECam proposals were accepted. Up to 20% of the observing time available through NOAO on these telescopes may be allocated to Survey Programs. In some cases, not all instruments currently used or planned for installation on these telescopes will be available for Surveys in any Call. The 20% observing time may be unequally distributed among the telescopes.

Survey programs represent significant observational efforts which:

- address novel, well-focused scientific goals;
- enable science requiring large, statistically complete, and homogeneous data; provide a basis for planning more detailed follow-up studies;
- enable archival research;
- represents a significant enhancement over existing surveys.

Survey programs are judged by a dedicated Survey TAC panel, which uses a wider range of criteria than does the regular TAC. The scientific bar for acceptance of Survey programs is thus considerably higher than for Standard proposals. No new Survey time is offered in 2016B; the most recent Survey call was in 2014B. More information on the NOAO Survey Program can be found at <http://ast.noao.edu/observing/surveys>

Gemini Large or Long Programs (LP) are those that require either significantly more time than a partner typically approves for a single program, or extend over 2 to 6 semesters, or both. The participating partners (US, Canada, and Argentina) will make up to 20% of their time at each telescope available for LPs. Gemini LPs are judged by a dedicated LP TAC, with representatives from the participating partners. Further information on LPs and the LP proposal process can be found at [Large or Long Programs](#)

Who can apply? Applications for telescope time at NOAO facilities are welcome from all astronomers and students. Applications from astronomers and students who work at non-US institutions must indicate why the project cannot be done using other facilities that might be available to the investigators and why US national facilities are needed. Proposals from graduate students who are conducting observations as part of their Ph.D. thesis work will have their travel and on-site expenses paid for by NOAO. Please select "Graduate student, and THIS proposal is part of thesis" ONLY if the requested observations are essential for the Graduate Thesis. For all other cases, please simply select "Graduate Student" (e.g. if the student is in fact working toward a thesis, but this proposal is not essential to that effort). Thesis Advisors should be aware that a [Thesis Student Information Form](#) should be completed and submitted within two business days after the proposal deadline. This form is required for the student to be considered for NOAO travel support. Lacking the Advisor's submission by the deadline, the proposal will be considered as any other non-thesis proposal, and travel support will not be granted.

Criteria for the evaluation of telescope proposals to NOAO facilities will be based on scientific merit. The criteria for evaluating scientific merit of proposals for time on NOAO facilities are:

- The relevance and importance of the proposal within the area of specialization.
- The relevance and importance of the proposal in the larger context of astronomical research.
- The suitability of the experimental design to achieve the scientific goals (including sample size, required S/N, approach to deal with difficult data reduction problems, etc.).
- The significance of the proposed observations for the completion of the project.
- The likelihood that the researchers will complete the project and publish their results and the adequacy of the resources available to them in order to do this.
- The broader impacts of the proposed research, for example, in education and public awareness of science.

In addition, the value of the proposed research to the educational and career development of the investigators may be considered in exceptional circumstances.

For Survey Proposals, additional criteria related to the broader goals of survey programs are applied, including how the data could be used after the survey is complete and how much of an educational component may be involved.

For CTIO proposals, preference may be given to proposals which can only be carried out in the southern hemisphere.

NOAO is committed to maximizing the accessibility of astronomy to all qualified proposers. Many of the telescopes available through NOAO support remote observing, and we are happy to discuss ways in which this mode can be employed to address specific issues of accessibility. To enquire about remote observing and other forms of access, and to request specific accommodation, please contact any of the following individuals:

- Dr. Verne Smith, NOAO TAC Program Head and acting Head of U.S. National Gemini Office (vsmith@noao.edu)
- Dr. Lori Allen, NOAO Associate Director for KPNO (lallen@noao.edu)
- Dr. Steve Heathcote, NOAO Associate Director for CTIO (sheathcote@ctio.noao.edu)
- Dr. Adam Bolton, NOAO Associate Director for System Science and Data (bolton@noao.edu)

2. Instructions for Submitting Semester 2016B Proposals

The 2016B Call for Proposals covers proposals for observing programs at all ground-based facilities on which NOAO manages open-access observing time. Observing proposals for all telescopes, other than Gemini, must be submitted using the NOAO Proposal Form, which is found at

<http://www.noao.edu/noaoprop/noaoprop.html>

The NOAO proposal can either be prepared and submitted completely online or a LaTeX template can be completed locally and submitted via a web upload.

Gemini Proposals Investigators who are applying for time on the Gemini telescopes **must use Gemini Observatory's Phase I Tool (PIT)** to prepare their observing proposals. The PIT is available from the Gemini Observatory at

<http://www.gemini.edu/sciops/observing-gemini/proposal-submission/phase-i-tool-pit>.

The text sections of PIT proposals will need to be attached as a PDF document. Please use the US Latex or Word template provided at the PIT website to write your NOAO Gemini PIT proposal.

Classical observers using US time on the Gemini telescopes should be prepared to fund their own travel for their observing trips. NOAO encourages classical observing for the benefits that the on-site experience provides, and will attempt to fund, at least in part, the cost of travel for one Gemini classical observer per run. However, because of tight funding constraints, NOAO cannot guarantee such support. NOAO *will* continue to support graduate students traveling to Gemini for observations that are part of their PhD thesis work.

AAT Proposals The Australian Astronomical Observatory (AAO) and NOAO/CTIO are pleased to announce a time exchange arrangement, to allow our respective communities to maximize the scientific facilities and opportunities to which we have access. In 2016B, five classically-scheduled nights on the Anglo-Australian Telescope will be available to the NOAO community. All AAT facility instruments are available.

Proposals for this time should be submitted through the NOAO proposal form. The proposals will be reviewed by the NOAO TAC, and the successful proposals submitted to the AAO for scheduling. Note also that proposals for AAT time through the regular AAT open call, submitted by the AAO deadline of 15 March 2016 at 17:00 (AEDT) using the AAO form, are also encouraged by the AAO. These will be assessed only by the Australian Time Assignment Committee.

3. General Information about Facilities Available through NOAO

3.1 Facilities List

Facility	Telescope	Approximate nights available for new 2016B programs	Additional Info
CTIO	4m Blanco Telescope	45	Large commitment (DES) in "B" semesters. "A" semesters largely unaffected.
KPNO	4m Mayall Telescope	83	Large commitment (MzLS) in "A" semesters. "B" semesters largely unaffected.
Gemini	8m Gemini North Telescope	61	
	8m Gemini South Telescope	53	
	8m Subaru Telescope (available through exchange)	3	
SMARTS	1.3m, 0.9m	219hrs, 21N	
SOAR	4.2m SOAR Telescope	23	
WIYN	3.5m WIYN Telescope	~50	NASA Exoplanet GO Proposals for the WIYN 3.5-m Telescope
	0.9m Telescope	20	
CHARA	6 X 1m Interferometer	0 hr	Note that the 2016A call covered all of calendar year 2016. Community Access to CHARA
AAO	3.9m AAT at the Australian Astronomical Observatory (available through exchange)	5	Community Access to AAT

3.2 Telescope and Instrument Lists (with Instrument Proposal Code and Web-link)

Gemini-North

GMOS-N: [Gemini Optical Imager, Multi-Object Spectrograph and IFU](#)

GNIRS: [Gemini Near Infra-Red Spectrograph](#)

GNIRS + Altair: [Gemini Near Infra-Red Spectrograph](#) with NGS, LGS, or LGS+PWFS1 [AO system](#)

NIFS: [Near-IR IFU spectrograph](#)

NIFS + Altair: [near-IR IFU spectrograph](#) with NGS, LGS, or LGS+PWFS1 [AO system](#)

NIRI: [Near-Infrared Imager](#)

NIRI + Altair: [Near-IR Imager](#) with NGS, LGS, or LGS+PWFS1 [AO system](#)

DSSI: [Speckle Camera](#) (visiting instrument)

GRACES: [Gemini Remote Access to CFHT ESPaDOnS Spectrograph](#) (visiting instrument)

Gemini-South

Flamingos-2 (imaging and longslit modes only): [Near-infrared Wide Field Imager and Multi-Object Spectrometer](#)

GMOS-S: [Gemini Optical Imager, Multi-Object Spectrograph and IFU](#)

GPI: [Gemini Planet Imager](#)

GSAOI/GeMS: [Gemini Adaptive Optics Imager with Multi-Conjugate AO System](#)

Phoenix: [Phoenix hi-res IR Spectrograph](#) (visiting instrument)

Subaru (Gemini Exchange Time)

COMICS: [Cooled Mid-IR Camera and Spectrometer](#)

FOCAS: [Faint Object Camera and Spectrograph](#)

HDS: [High Dispersion Spectrograph](#)

HSC: [Hyper Suprime-Cam Wide-field Optical Imager](#)

IRCS: [IR Camera and Spectrograph](#)

IRCS+AO188: [IRCS + Natural and Laser Guide Star AO](#)

MOIRCS: [Multi-Object IR Camera and Spectrograph](#)

CTIO 4-m Blanco

COSMOS: [Cerro Tololo Ohio State Multi-Object Spectrograph](#)

DECam: [Wide Field Optical Imager](#)

TS4 ARCoIRIS: [TripleSpec4 near-IR spectrograph](#)

SOAR 4-m

Goodman: [Goodman Spectrograph](#)

SOI: [SOAR Optical Imager](#)

OSIRIS: [Ohio State IR Imager/Spectrometer](#)

Spartan: [Spartan IR Imager](#)

SAM: [SOAR Adaptive Module](#)

HRCAM: [High-Resolution Camera](#)

SAMHR: [SAM + HRCAM](#)

Anglo-Australian Telescope (CTIO time exchange)

AAOmega+2DF: [Fiber-fed Optical Spectrograph](#)

AAOmega+KOALA: [1000-element Optical IFU](#)

AAOmega+SAMI: [13 IFU fiber bundles over a 1-degree field](#)

HERMES + 2dF: [High Efficiency and Resolution MultiElement Spectrograph](#)

IRIS2: [1.0-2.5 micron Infrared Imager and Longslit/Multi-slit Spectrograph](#)

UCLES: [Cross-dispersed Echelle Spectrograph with resolution \$R = 40,000 - 120,000\$](#)

CTIO 1.3-m

ANDI+CCDIR: [Cass Direct + CCD/IR Queue-Service](#)

CTIO 0.9-m

CFIM+T2K: [Cass Direct + SITe 2K CCD](#)

KPNO 4-m Mayall

KOSMOS: [Kitt Peak Ohio State Multi-Object Spectrograph](#)

MOSA: [Prime Focus CCD Camera with Mosaic Imager](#)

NEWFIRM: [Very wide-field IR imager](#)

WIYN 3.5-m

ODI: [\(40'x48' focal plane\) One Degree Imager](#)

HYDRB: [Hydra + Bench Spectrograph](#) + STA1 CCD, Blue camera

HYDRR: [Hydra + Bench Spectrograph](#) + STA1 CCD, Red camera

SPSPKB: [SparsePak Fiber Array](#) + [Bench Spectrograph](#) + STA1, Blue camera

SPSPKR: [SparsePak Fiber Array](#) + [Bench Spectrograph](#) + STA1, Red camera

WHIRC: [WIYN High Resolution IR Camera](#)

GRDPK: [GradPak IFU](#)

HEXPK: [HexPak IFU](#)

WIYN 0.9-m

HDI: [Half-Degree Imager](#)

4. News and Updates for Semester 2016B

The following changes to instrumentation at all facilities available through NOAO are noted here to alert investigators preparing proposals.

Gemini North and South

The Gemini Observatory has released a [Call for Proposals](#) for 2016B. **Proposers requesting Gemini time must use the [Gemini Phase-I Tool \(PIT\)](#).**

The **DSSI Speckle camera** visitor instrument will be available at Gemini North.

If demand warrants, **Phoenix** will be available at Gemini South during the second half of 2016B. Visit <http://ast.noao.edu/nssc/usngo/phoenix> for the most up-to-date information.

GRACES offers high-resolution ($R \sim 67,500$) optical spectroscopy between 400 and 1000 nm at Gemini North.

Gemini-Subaru Exchange

Gemini and Subaru are continuing their time-exchange program. A desired minimum of five classically-scheduled nights will be available to the Gemini community, providing there is sufficient demand from both sides of the exchange. Please see the Gemini [call for proposals](#) for more information. **Proposers requesting Subaru time must use the [Gemini Phase-I Tool \(PIT\)](#).**

Community Access Time

AAT: Due to a time-exchange program between CTIO and the Australian Astronomical Observatory, five nights of classical observing time at the 3.9m Anglo-Australian Telescope will be [available to the community](#) during 2016B.

CTIO

Blanco 4-m

Instruments available: In 2016B, CTIO will be offering the Dark Energy Camera (DECam), the Cerro Tololo Ohio State Multi-Object Spectrograph (COSMOS), and the Astronomy Research with the Cornell InfraRed Imaging Spectrograph (ARCoIRIS).

Nights Available in 2016B: The Dark Energy Survey (DES) has been granted 105 nights per year, for five years, on the Blanco Telescope. These nights are being scheduled in such a way as to allow the wide field survey of the Southern Galactic cap to be executed as efficiently as possible. This means that all but about five of these nights fall in the B-Semester with the DES time concentrated in the months of September through November, and with second half nights scheduled during August and the first half of September, and first half nights scheduled from late December to February. This leaves very little time available to observe targets in the same range of RA's as the DES footprint. For reference the oversubscription factor for new proposals was 5.2 for the 2015B semester. We expect 45 nights to be available for new NOAO programs in 2016B, with much of the time at the two ends of the semester and lesser availability in the middle months.

Block Scheduling: DES also includes a supernova search which involves repeatedly observing 10 fields with a target cadence of once every 4-5 nights. This makes it hard to schedule contiguous blocks of time longer than 3 nights in dark time and 5 in bright. If your run can be split into shorter blocks, whether only a few days apart or, at entirely different times in the semester, be sure to tell us. Because of the effort required to switch from prime to f/8 and back, coupled with the DES block length constraint we will only schedule two or three relatively short f/8 blocks, during bright time in the 2016B semester. In doing this, we will try to satisfy the optimum date range requested in the most highly ranked f/8 proposals, but please be as flexible as possible when specifying these and equally be sure to very clearly indicate if your proposal is time critical on the scheduling constraints line.

SOAR

The SOAR instrument complement and other capabilities (including remote observing) are generally unchanged from prior semesters. However, the SOAR web site has been significantly overhauled and is now located at:

<http://www.ctio.noao.edu/soar/>

SOAR will be unavailable in for about six weeks in October/November 2016 so that the mirrors can be removed and recoated.

OSIRIS has been retired. For near IR spectroscopy, users should consider TS4 on Blanco, which offers similar capabilities with better performance. For near IR imaging consider SPARTAN on SOAR.

A second camera for the Goodman spectrograph will be available, which incorporates a deep-depletion e2v CCD with better red performance (but somewhat inferior UV performance). It has not yet completed commissioning, so details on performance are not yet available - see the [Goodman page at SOAR](#) for further details. Users are restricted to one camera on a given night, but do not need to commit to a specific camera when writing the proposal.

The grating complement on the [Goodman spectrograph](#) has evolved somewhat over the past few years; for 2016B it will be the same as for 2016A. See the web site for the current grating complement.

SMARTS

Time on the small telescopes at CTIO will be available to NOAO users in 2016B via the usual proposal process. The telescopes are operated by the SMARTS consortium with up to 15% of time available to the NOAO community.

The 0.9m + CFCCD is available in user mode only. For more information on the 0.9m, please contact Dr. Todd Henry at thentry@astro.gsu.edu.

The 1.3m + ANDICAM (dual channel optical / IR imager) is available in queue / service mode only. The 1.3-m telescope is primarily used for monitoring projects, thus programs are scheduled in non-contiguous segments of an hour or less with a limit of three hours total within any given night.

Due to funding constraints, the 1.5m will not be operated in 2016B. We plan to re-open the 1.5-m starting in 2017A for a minimum of 8 months, on a week-on, week-off basis. We are looking for additional funding in order to return to full operations.

Non-sidereal tracking is no longer supported as service or queue observing. The only option for non-sidereal is user time on the 0.9m.

Further information can be found at <http://www.astro.yale.edu/smarts/>

KPNO

Mayall: The 2016B Semester at the Mayall will be shorter than usual, as a result of the ProtoDESI installation and testing campaign. We currently expect that the ProtoDESI campaign will require about eight weeks of telescope time and will start sometime in early August.

In 2016B, the instruments offered at the Mayall will be KOSMOS, NEWFIRM, and at prime focus, Mosaic-3. Mosaic-3 is a new incarnation of the NOAO Mosaic imager. It consists of four 4Kx4K, red-sensitive LBNL CCDs mounted in the Mosaic-2 Dewar. Please see <http://www.noao.edu/kpno/mosaic/mosa3.html> for the latest information.

The facility infrared camera NEWFIRM will end its tenure at the Mayall 4-m telescope on Kitt Peak at the end of the 2016B semester. Proposals for NEWFIRM in 2016B will be limited to completion of previously approved Survey programs and for newly approved short programs that can be done observationally in a few nights.

WIYN: As was the case in the 2016A, priority at the WIYN-3.5m will be given to qualifying proposals under the NN-EXPLORE program. More information on the NASA Guest Observer program can be found at <http://ast.noao.edu/observing/wiyn-exoplanets-2016b>.

Instruments offered at WIYN include the upgraded ODI, now with a 48'x40' focal plane. Other facility instruments on offer are HYDRA, the IFUs (SparsePak, HexPak, and GradPak), WHIRC (with or without WTTM), and for NASA GO proposers, the speckle camera DSSI. Summer shutdown activities are expected to occur throughout the month of August at WIYN, with available observing time beginning in September.

Remote Observing: KPNO offers remote observing for selected programs in 2016B. If you are interested in this opportunity, please see the requirements for observing remotely at <http://www.noao.edu/kpno/remote.html>. If you are requesting remote observing, **please make a note of this** in the "Scheduling constraints and non-usable dates" section that appears at the bottom of the first page of the NOAO proposal form and include any additional details in the "Technical Description" text of your observing run.

5. How to Acknowledge Use of NOAO Facilities

There are a variety of credit lines which are appropriate for citing the use of data from one or more of the NOAO facilities. Please acknowledge the proper observatories by using the appropriate credit line as discussed below.

NOAO generic press release

The National Optical Astronomy Observatory (NOAO) consists of Kitt Peak National Observatory near Tucson, Arizona, Cerro Tololo Inter-American Observatory near La Serena, Chile, and the NOAO System Science Center. NOAO is operated by the Association of Universities for Research in Astronomy (AURA) under a cooperative agreement with the National Science Foundation.

Observers should also note their NOAO proposal ID and observing dates in their publications either in a footnote, or in the observations section or acknowledgments sections of their papers.

KPNO

Visitors are asked to add a Kitt Peak byline on the title page, as a footnote to the author, that reads:

Visiting Astronomer, Kitt Peak National Observatory, National Optical Astronomy Observatory, which is operated by the Association of Universities for Research in Astronomy (AURA) under cooperative agreement with the National Science Foundation.

NOAO staff members are asked to add a footnote after their names on the title page that reads: Kitt Peak National Observatory, National Optical Astronomy Observatory, which is operated by the Association of Universities for Research in Astronomy (AURA) under cooperative agreement with the National Science

Foundation.

In addition to the Kitt Peak credit line, Case Western Reserve University has requested that a special acknowledgement be included on papers resulting from observations obtained with the Burrell Schmidt telescope:

Observations made with the Burrell Schmidt of the Warner and Swasey Observatory, Case Western Reserve University.

WIYN

In addition to the Kitt Peak Credit line, the WIYN Observatory Corporation has requested that the following acknowledgement be included in any paper using WIYN data. The acknowledgement should be included as a footnote on the title page. The WIYN Board also encourages the mention of WIYN in the title or abstract of the paper:

The WIYN Observatory is a joint facility of the University of Wisconsin-Madison, Indiana University, Yale University, and the National Optical Astronomy Observatory.

CTIO

It is expected that visiting observers making use of CTIO facilities will utilize the observations they obtain for the preparation of a publication describing their research activity. Publications by visiting observers should carry the following credit lines:

Visiting astronomer, Cerro Tololo Inter-American Observatory, National Optical Astronomy Observatory, which are operated by the Association of Universities for Research in Astronomy, under contract with the National Science Foundation.

Visiting observers who use CTIO facilities for only a small part of a larger program should include suitable acknowledgement to the Observatory in their publication or dissertation.

SOAR

To properly acknowledge the use of data obtained with the SOAR telescope in publications, whether partially or entirely based on SOAR data, please include an asterisk by the paper title referring to a footnote stating:

"Based on observations obtained at the Southern Astrophysical Research (SOAR) telescope, which is a joint project of the Ministério da Ciência, Tecnologia, e Inovação (MCTI) da República Federativa do Brasil, the U.S. National Optical Astronomy Observatory (NOAO), the University of North Carolina at Chapel Hill (UNC), and Michigan State University (MSU)."

Gemini

Papers containing data from the Gemini telescopes (e.g., an ApJ paper) should include the following general acknowledgment as a footnote on the first page or in the last section before the references:

Based on observations obtained at the Gemini Observatory, which is operated by the Association of Universities for Research in Astronomy (AURA) under a cooperative agreement with the NSF on behalf of the Gemini partnership: the National Science Foundation (United States), the National Research Council (Canada), CONICYT (Chile), the Australian Research Council (Australia), Ministério da Ciência e Tecnologia (Brazil) and Ministerio de Ciencia, Tecnología e Innovación Productiva (Argentina).

If appropriate, please also acknowledge the provision of visiting instrument(s) as described in the relevant "documents" web pages for that instrument.

Authors are also asked to give the identification number ("Program ID") of the program(s) under which their data were obtained, e.g. GN-2004A-Q-10, or GS-2003B-C- 1, or GN-2002B-SV-78 or GS-2005A-DD-96. We recommend that this reference to the Program ID be made in the acknowledgement section at the end of the paper or in the Observations section of the paper.

TSIP

Please acknowledge NSF-TSIP support by including the following in all publications relating to TSIP observing time (preferably as a footnote on the title page): “[Keck, MMT, or Magellan] telescope time was granted by NOAO, through the Telescope System Instrumentation Program (TSIP). TSIP is funded by NSF.” Observers should also note their NOAO proposal ID and observing dates in their publications either in the same footnote, or in the observations section or acknowledgments sections of their papers.

In addition for Keck time, please include the standard Keck acknowledgements at http://www2.keck.hawaii.edu/observing/keck_authors.html

ReSTAR

Any publication that results from NOAO-allocated time on the 200-inch Hale telescope should acknowledge the NSF/NOAO ReSTAR program, in addition to a Hale/Palomar acknowledgment. The requested wording for ReSTAR acknowledgements is:

"This material is based upon work supported by AURA through the National Science Foundation under AURA Cooperative Agreement AST 0132798 as amended."