

# Chilean Telescope Time Allocation Committee

## Semester 2012A Call for Proposals

The Chilean Telescope Time Allocation Committee (CNTAC) invites the Chilean community to submit proposals for observations at the following facilities during the 2012A semester:

- **CTIO:** Blanco, SOAR, 1.5m, 1.3m, 1.0m, 0.9m, PROMPT, Curtis/Schmidt, SARA
- **LCO:** Baade, Clay, du Pont, Swope
- **National Telescopes:** Warsaw, Danish 1.54m, EULER, REM, ESO/Schmidt, TRAPPIST, MiniTAO
- **Radio-telescopes:** ASTE, NANTEN2, QUIET, ACT

The submission deadline is:

**MONDAY OCTOBER 17, 2011 (23:59 Chilean local time).**

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Items highlighted in yellow are new in semester 2012A

# 1. Policies

The CNTAC has established specific rules regarding eligibility, duration of the projects, and telescope assignment (please visit the CNTAC web page at <http://www.das.uchile.cl/cntac.php> for further details).

1. **Eligibility:** Eligible PIs are 1) Chilean astronomers (a scientist with a M.S. or Ph.D. degree working in a Chilean institution where active scientific research is performed, 2) Chilean graduate students with the sponsorship of her/his supervisor (the student must attach to the proposal a letter from his/her supervisor), 3) Visiting astronomers. Note that the PI of the proposal must be enrolled in a Chilean institution *during the time of the requested observations*.
2. **Duration of projects:** The proposals are reviewed by the CNTAC on a semester by semester basis (except for the du Pont, Swope, and Warsaw telescopes which are assigned on a yearly basis, **and for the longer, collaborative projects with the ACT and QUIET teams**). The CNTAC can give special attention to proposals specifying their long-term nature (more than one semester). On telescopes larger than 2.0 m the CNTAC will reserve up to 20% of the Chilean time for long-term proposals, while on telescopes smaller than 2.0 m it will reserve up to 40% of the Chilean share for long-term proposals. In the case of long-term programs it is important that the applicants indicate the long-term nature of the program and the total duration. **Investigators currently leading long-term programs are expected to submit a one-page progress report to the CNTAC by the above deadline.**
3. **“Fast track” CFP:** In past semesters, occasionally some telescopes have been under-subscribed. In the event time cannot be fully allocated, and in order to optimize Chilean resources and avoid late-time requests, a second "fast track" call will be issued right after the CNTAC process, including all telescopes with remaining time. Fast-track proposals will be handled directly by the UCh Director. Observatories will get all CNTAC allocations at once, after the second call, if there is any. If time still remains unallocated, it will be considered as time returned to the observatory.
4. **Acknowledgments:** Since 2011B the CNTAC is asking PIs to include the identification number of the program in any publication that make use of data obtained through a CNTAC proposal.
5. **PI commitment:** Through her/his application the PI is fully committed to carry out such observations. The PI or one of the Co-investigators listed on the proposal is expected to be present at the telescopes on the assigned nights (unless service or remote mode was assigned). In the event that the PI cannot make use of such nights for the scientific program approved, he/she must immediately communicate the problem to the chairman of the CNTAC who will reassign such time to another applicant based on the ranking previously established by the CNTAC.

## 2. Proposal submission

1. **CNTAC form:** The CNTAC has its own unique form for all the telescopes listed above. The form can be found through the CNTAC web pages at <http://www.das.uchile.cl/cntac.php>. To create a CNTAC 2012A proposal, uncompress the package CNTAC-form-2012A.tar and edit the file CNTAC-form-2012A.tex. **The package includes a README file describing some changes made in 2012A.** Make sure not to exceed the page limits. Do not use the LCO observing form, the NOAO website, the NOAO observing proposal form, or any other older CNTAC form. Please do not append preprints or reprints to your proposal.

2. **Proposal submission:** Proposals must be uploaded through a web form available at

[http://www.das.uchile.cl/cntac/form\\_prop\\_cntac.php](http://www.das.uchile.cl/cntac/form_prop_cntac.php)

Please submit *two* files: [1] the latex source and [2] the complete PDF file (with figures embedded). The PDF file must be in letter format (files submitted in A4 or other formats will not be accepted). Please make sure the latex source corresponds to the submitted PDF file. After submission you will receive a confirmation on the screen and via e-mail. A preliminary identification number will be given to your proposal.

## 3. General Information

1. **Subscription factors:** Historical subscription factors for the different telescopes are available through the CNTAC web pages.

2. **CNTAC Long-term commitments for the semester 2012A:**

- CTIO 1.5m: 1 hour
- CTIO 1.3m: 47 hours
- CTIO 0.9m: 3 nights
- PROMPT: 280 hours
- REM: 75 hours
- Du Pont: 5 nights in the semester 2012A, 5 nights in the semester 2012B
- EULER: 6 nights

3. **Observing periods:** The observing periods covered in this proposal are the following:

- CTIO: February 1 2012 - July 31 2012
- LCO (Baade & Clay): January 17 2012 – July 9 2012
- LCO (Du Pont & Swope): January 17 2012 – January 19 2013
- Warsaw March 13 2012 - December 12 2012

- EULER: April 2012 - September 2012
  - REM: February 1 2012 - July 31 2012
  - TRAPPIST: March 2012 – September 2012
  - ESO/Schmidt: April 2012 - September 2012
  - MiniTAO: April 2012 - June 2012
  - ASTE June 2012
4. **Proposal guidelines:** The members of the CNTAC have prepared a document describing general criteria for selection of CNTAC proposals and tips for a successful proposal. The document can be found at: [http://www.das.uchile.cl/doc\\_pdf/guidelines.pdf](http://www.das.uchile.cl/doc_pdf/guidelines.pdf)
5. **Observatories based in Chile:** A list with the telescopes currently in operation in Chile can be found at [http://www.das.uchile.cl/page\\_telescopio\\_operando\\_chile\\_1.php](http://www.das.uchile.cl/page_telescopio_operando_chile_1.php)
6. **Questions:** Questions regarding the submission process should be sent to [slopez@das.uchile.cl](mailto:slopez@das.uchile.cl). Please include the keyword "CNTAC" in the subject of the message.

## 4. Instrumentation available in the semester 2012A

A description of the instrumentation available can be found through the following web pages:

- CTIO (incl. SOAR): <http://www.ctio.noao.edu/telescopes/telescopes.html>
- CTIO/PROMPT: <http://www.physics.unc.edu/~reichart/prompt.html>
- LCO: <http://www.lco.cl/lco>
- Warsaw <http://ogle.astrouw.edu.pl/main/tel.html>
- EULER: Contact person: Stephane Udry ([Stephane.Udry@unige.ch](mailto:Stephane.Udry@unige.ch))
- TAROT Contact person: Michel Boer ([Michel.Boer@oamp.fr](mailto:Michel.Boer@oamp.fr))
- REM: <http://www.rem.inaf.it>
- TRAPPIST: [http://arachnos.astro.ulg.ac.be/Sci/Trappist/Trappist\\_main/Home.html](http://arachnos.astro.ulg.ac.be/Sci/Trappist/Trappist_main/Home.html)
- ESO/Schmidt: Contact person: Charlie Baltay ([baltay@hepmail.physics.yale.edu](mailto:baltay@hepmail.physics.yale.edu))
- MiniTAO:
  - [http://www.ioa.s.u-tokyo.ac.jp/kibans/anir\\_en/](http://www.ioa.s.u-tokyo.ac.jp/kibans/anir_en/)
  - [http://www.ioa.s.u-tokyo.ac.jp/kibans/max38\\_en/](http://www.ioa.s.u-tokyo.ac.jp/kibans/max38_en/)
- ASTE: <http://www.nro.nao.ac.jp/~aste/instruments/>
- NANTEN2: <http://www.astro.uni-koeln.de/nanten2/node/15>
- QUIET: <http://quiet.uchicago.edu/site/index.html>
- ACT: <http://www.physics.princeton.edu/act/>

Specific guidelines for CNTAC proposals are described in what follows.

#### **4.1. CTIO facilities (including SOAR).**

1. **BLANCO telescope:** Starting in early 2012, CTIO will install and commission the Dark Energy Camera (DECam) on the Blanco 4-m telescope. Due to the complexity of this installation, involving significant work to the telescope structure, the telescope will be unavailable for most of the 2012A semester. CTIO anticipates possibly up to four weeks in June or July of community time in 2012A with f/8, during which they may have Hydra and ISPI available for community use. Time will be scheduled provisionally, probably via service or remote observing, to maintain flexibility in the telescope and DECam commissioning schedule.
2. **SOAR telescope:** For 2012A remote observing is being offered for NOAO and CNTAC proposals requesting time with SOI, OSIRIS, or the Goodman Spectrograph, provided: (a) the person who will carry out the observations has previously observed at SOAR using the instrument(s) requested in the proposal; and (b) our review of the proposal does not reveal any special technical requirements which would make it preferable to have an observer on-site. Remote observing with Spartan is not being offered at this time.
3. **SMARTS:** Four of the smaller telescopes on Cerro Tololo are now being operated by the SMARTS consortium, a group of several universities and other organizations. SMARTS is headed by Prof. Charles Bailyn at Yale, and NOAO is a member. The SMARTS consortium www site at <http://www.astro.yale.edu/smarts/> is the master source for the small telescopes' schedules, and has much other useful information as well. In the semester 2012A the SMARTS consortium will be operating only one out of the 0.9m and 1.0m at any time. Proposers can still apply for either. SMARTS team will alternate which telescope is in use to accommodate accepted proposals. Service observing is still available on the 0.9m, but not on the 1.0m. For more information, please see the article by Charles Bailyn on page 21 of the NOAO Newsletter.
4. **SARA:** SARA-South is a remotely-operated 0.6m telescope sited at Cerro Tololo. Installation of a new CCD system is scheduled for late September 2011. Its Kodak 230-42 chip will give 0.38" pixels over a 12.5-arcminute field, with better cooling and somewhat higher quantum efficiency than the current detector. Filters are currently SDSS ugriz, Bessel UBVRi, "white-light", and an old set of stepped H-alpha filters about 70 Å wide with 6563, 6600, 6675, 6825, 6900, 6975 Å center wavelengths. Operation uses the RAdmin remote-management software or VNC protocol (RAdmin for Windows; so far security requires that Macs use Chicken of the VNC) via the NOAO VPN (which needs a Cisco client that can be downloaded from NOAO). Our remote-operation rules require new observers to eavesdrop for parts of three nights to become familiar with the system. The telescope has its own weather station and all-sky camera.

The SARA scheduling semesters (November-April, May-October) do not match the NOAO/CNTAC ones. The CNTAC has already allocated time for a program running through January, so new allocations would start in February (and at the CNTAC's discretion could run into the next semester, as before). There should be a total of 17 nights available through the CNTAC this coming semester.

5. **Curtis/Schmidt:** Three nights (10% of 30 science nights) will be available to Chilean astronomers with a 4kx4k thinned E2V CCD with 1.6x1.6 deg field of view and 1.44 arc-second pixels. Filters available will be BVRI plus a broad V+R. All observing will be service observing on whole nights dedicated to Chilean astronomers.
6. **PROMPT:** Please see details at <http://www.physics.unc.edu/~reichart/prompt2.html>  
Contact person is Dan Reihart, [dan.reichart@gmail.com](mailto:dan.reichart@gmail.com)

## **4.2. LCO facilities (including Warsaw):**

### **1. General guidelines:**

- 1.1. All observers at Las Campanas are expected to be experienced and self-sufficient. All Magellan observers should read the Magellan Telescopes Observer Guidelines at <http://www.lco.cl/observer-information/visiting-observer/guidelines-for-observers>
- 1.2. All observers on LCO telescopes should follow the Observer Deadlines described at <http://www.lco.cl/observer-information/visiting-observer/visiting-observer-guide>
- 1.3. For the Baade and Clay telescopes, this proposal round will cover the first semester of 2012 running from January 17 through July 9. A block schedule can be found at <http://obs.carnegiescience.edu/~ian>. The 2012 observing year for the du Pont and Swope telescopes runs from January 17, 2012 through January 19, 2013. Chilean time on the Magellan telescopes has tentatively been scheduled to be the following nights:

#### **a) Baade (16 nights):**

- Feb 18 – 20
- March 10 – 11
- March 22 – 24
- April 8 – 10
- May 25 – 27
- July 8 - 9

**b) Clay (15 nights):**

- January 20 – 22
- February 6 – 7
- February 22 – 23
- April 1 - 3 (MMIRS)
- May 18 – 19
- June 24 - 26

2. **Instrumentation:** A description of the instrumentation available can be found at <http://www.lco.cl/lco>. More specifically:

- 2.1. **Baade:** IMACS (including GISMO and MMTF modules), FIRE and FourStar.
- 2.2. **Clay f/11:** LDSS3, MagE, MIKE. Please note that the fiber mode for MIKE has been retired.
- 2.3. **Clay f/11 PFS:** PFS is a high resolution echelle spectrograph optimized for precision radial velocity measurements. PFS is a PI instrument and will only be available via collaborative arrangement with the instrument team. If you are interested in applying for time on PFS in the 2012A semester contact Steve Shectman ([shec@obs.carnegiescience.edu](mailto:shec@obs.carnegiescience.edu)) before submitting a proposal.
- 2.4. **Clay f/5:** There will be one MMIRS run on Clay in 2012A, likely beginning in late March. During the f/5 run none of the other Clay instruments will be available. Please note that these blocks are provisional and there is normally room for some trading before the final schedule is made.
- 2.5. **Masks for Magellan instruments:** Masks for the WFCCD or the LDSS3 spectrographs cost \$50.00 per mask to manufacture. Masks for the IMACS spectrograph will cost approximately \$250.00 per mask. Masks for the MMIRS spectrograph will cost approximately \$150.00 per mask. Instructions for making MMIRS masks can be found at: <http://www.cfa.harvard.edu/wiki/mmti/MMTI/MMIRS/ObsManual/MMIRS+Mask+Making>.
- 2.6. **du Pont:** B&C, CAPSCam, CCD-Direct, Echelle, RetroCam, WFCCD.
- 2.7. **Swope:** The Site#3 CCD camera will be replaced with a 4K x 4K x 15 micron pixel CCD from E2V. It is hoped that this new camera will be commissioned by November, 2011, at which point it will become the only instrument on the Swope telescope.
- 2.8. **Warsaw telescope:** The only instrument available is the new 32-chip mosaic CCD camera (1.4 square degrees). Only V and I-band filters are available (i.e., no "white" light). Dates for 2012 Chilean slots are:

- Mar. 13/14 - Mar. 15/16 3 gray
- Apr. 10/11 - Apr. 12/13 3 gray
- May 7/8 - May 9/10 3 gray/bright
- Jun. 3/4 - Jun. 5/6 3 bright
- Jul. 1/2 - Jul. 3/4 3 bright
- Jul. 28/29 - Jul. 30/31 3 gray/bright
- Aug. 24/25 - Aug. 26/27 3 gray
- Sep. 21/22 - Sep. 23/24 3 gray
- Oct. 18/19 - Oct. 20/21 3 dark
- Nov. 12/13 - Nov. 14/15 3 dark
- Dec. 10/11 - Dec. 12/13 3 dark

### **4.3. National telescopes**

1. **EULER:** The instruments on EULER are still the same: the Coralie high-resolution spectrograph in the visible (R=50000) and a CCD camera. To comply with the operational and safety requirements of the EULER operation (the telescope and instrumentation is operated by the observer himself, without telescope operator, and the documentation is mostly in French), a minimum amount of training nights are required for new observers (2-3). Even trained observers are required to arrive on the mountain at least 1 night before the start of his/her observing run.
  
2. **REM proposals:** REM is a 60 cm robotic telescope which can observe simultaneously with a visible and an infrared camera. The observation will be carried out in unmanned, service mode.
  - 2.1. Time for REM should be expressed in terms of hours. Also, different hours must be given for the two instruments (REMIR and ROSS, which can be used simultaneously, and this is in fact encouraged not to waste time) and the greater of the two counts as the requested time.
  - 2.2. Applicants can have a look at the REM web site ([www.rem.inaf.it](http://www.rem.inaf.it)) and follow the ->Instruments ->REMIR ->ROSS links to have data on the filter pass-bands and the limiting magnitude for both instruments.
  
3. **ESO Schmidt proposals** The telescope is equipped with a wide field optical camera (QUEST2). The observations are fully robotic. The Yale group volunteers to perform the observations if it is told the required targets, filters, exposure times etc. There are several filter trays available--Johnson UBRI, Gunn griz, a broadband RG610, a broad red(4000 to 7000 Å) and maybe in the future a ggrr. More information on the camera and filter bands are in the paper C. Baltay et al, PASP 119, 1278 (2007). Interested users can contact Charlie Baltay ([charles.baltay@yale.edu](mailto:charles.baltay@yale.edu)) to discuss how to best

proceed. The filters mentioned above will be available but the crew at La Silla is not able to switch filters more than once a month or so and the supernova search program will be operating with the broad 4000 to 7000 Å. Because of that, interleaved observations should be with the broad filter. Longer runs i.e. a week long run could be with a different filter set.

4. **MiniTAO proposals:** Three nights of the mini-TAO telescope will be opened for Chilean time under risk shared mode. Both instruments, ANIR and MAX38, will be opened. However, only the N(10micron)- and Q(20um)-band imaging modes will be opened for MAX38; this is because observing and reduction procedure at 30-38 micron has not been well-established yet, although this wavelength range is confirmed to be accessible at mini-TAO. The Japanese team is planning to carry out a 2012A run from April to June. The expected number of nights for science programs is about 1 month (i.e., ~30 nights).
5. **TRAPPIST proposals:** TRAPPIST is a 60 cm telescope installed in La Silla by Liège University and Geneva Observatory and operated remotely from Belgium. It is exclusively devoted to photometry of exoplanets, comets and other solar system minor bodies. TRAPPIST is equipped with a 2Kx2K CCD camera with pixels of 0.65" and two filter wheels. One is loaded with B,V,R,z,I+z filters and a clear slot and the other one with special NASA narrow band cometary filters (Jehin et al., The ESO Messenger, 145, 2, 2011). Three full nights per month are offered and should be evenly distributed (like around days 1, 11 and 21). The PI has to prepare a sequence of observations by filling in a template that the TRAPPIST team will provide and execute. More information can be found at [http://arachnos.astro.ulg.ac.be/Sci/Trappist/Trappist\\_main/Home.html](http://arachnos.astro.ulg.ac.be/Sci/Trappist/Trappist_main/Home.html)
6. **TAROT** (Rapid Action Telescope for Transient Objects) is a very fast moving (1 second) optical robotic telescope able to observe from the beginning of a Gamma Ray Burst (GRB). Satellites detecting GRBs send timely signals to TAROT, which in turn will be able to give a sub-arc second position to the community. The data from the TAROT telescope will also be useful to study the evolution of GRBs, the physics of the fireball and of the surrounding material.

#### 7. **Danish 1.54m**

### **4.4. Radio telescopes**

1. **ASTE:** Five nights will be offered for Chilean community in the semester 2012A. Note that about 50 nights will be devoted for science runs in total using hetero-dyne receivers during the period from May to July 2012. The 345 GHz band receiver CATS345 and the digital spectrometer MAC will be available. Another digital spectrometer WHSF is not yet available for this semester due to the delay of the commissioning. At this moment, we may expect to have the Chilean run during June

2012, although the exact date is not yet fixed. You can consult with the web page below to see the status of ASTE. <http://www.nro.nao.ac.jp/~aste/instruments/> Any questions regarding instrumentation, please contact Dr. Kotaro Kohno at [kkohno@ioa.s.u-tokyo.ac.jp](mailto:kkohno@ioa.s.u-tokyo.ac.jp).

2. **NANTEN2:** A rough estimate of the total time available for science observations for the Chilean community is 14 nights on the following receivers
  - 2.1. SMART 460 GHz / 810 GHz array receiver (16 beams)
    - a) Backend Acousto-optical spectrometers (AOS) with a bandwidth of 1 GHz and a channel resolution of 0.37 km/s at 460 GHz.
    - b) DSB receiver noise temperature 180-500K at 460 GHz
    - c) DSB receiver noise temperature 650-1000K at 810 GHz
  - 2.2. 115/230/345 GHz: Nagoya University  
For questions regarding instrumentation, please contact Kotaro Kohno ([hiro@phys.nagoya-u.ac.jp](mailto:hiro@phys.nagoya-u.ac.jp), NANTEN2), or Robert Simon ([simonr@ph1.uni-koeln.de](mailto:simonr@ph1.uni-koeln.de), SMART).
3. **ACT:** The ACT telescope is currently undergoing an upgrade to a polarization sensitive receiver. The ACT collaboration calls the new receiver and project ACTPol. They anticipate that the best date for CNTAC proposals for observing time is in Sept. 2012. Here is a high level description:
  - 3.1. ACT is a 6 m telescope. It is newly instrumented to be polarization sensitive. Initially it will have a single frequency band at 145 GHz. The resolution will be approximately 1.5'.
  - 3.2. The telescope currently scans only in azimuth and observes approximately between sunset and sunrise. It was specifically designed to measure the anisotropy in the CMB. ACTPol observes swaths of sky at constant declination as they rise and then again as they set. The data are combined to make maps of a few hundred square degrees of sky. ACTPol is a survey instrument and cannot make pointed observations. Observations are made between roughly June 1 and Dec 15 each year, although the ACT team is seeking ways to extend the season.
  - 3.3. The telescope produces about 200 GB per night of observing and requires highly specialized software to reduce. Algorithms are still under development. Papers describing the instrument are available through: <http://www.physics.princeton.edu/act/> As part of the CMB observations, ACT observes clusters of galaxies and mm-wave sources.
  - 3.4. The ACT team, in consultation with the CNTAC, believes that the best use of the observing time is for a group to propose to collaborate with the ACT team to observe areas of common interest. For example, if a Chilean group had observed a few square region in the optical bands and was interested in correlating with mm-wavelength bands to identify galactic clusters or mm-wave sources, the proposal would be for ACT to observe a specific region of sky. Potential proposers are encouraged to contact ACT team members to assess the feasibility of the observations and to design optimal strategies.
  - 3.5. The Atacama B-Mode Search (ABS) is a small experiment at the ACT site. The primary reflector is 0.7m in diameter and is cooled to 4 K. The resolution is 1/2 degree. ABS is a survey instrument and does not make pointed observations. Its

goal is to measure or constrain B-modes at the  $r \sim 0.03$  level. If some one is interested in participating in the experiment they should get in touch with Prof. Suzanne Staggs at Princeton University ([staggs@princeton.edu](mailto:staggs@princeton.edu)).

4. **QUIET:** The Q and U Imaging Experiment is an experiment to study polarization patterns in the Cosmic Background Radiation using large focal plane arrays of MMIC amplifier correlation polarimeters. The first phase, now complete, included observations at 44 GHz and at 95 GHz carried out from the Chajnantor plateau. Initial results are in press (arxiv/1012.3191). An expanded follow on experiment is now in the planning stage.

The QUIET collaboration would welcome interest from members of the Chilean community. Because the experiment is now in the planning phase, it is an especially opportune time for Chilean involvement. For more information, contact Simon Radford ([sradford@caltech.edu](mailto:sradford@caltech.edu))

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On behalf of the CNTAC  
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