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Currents

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ALTAIR Update (Possible New Instrument Start for Gemini): In response to the ALTAIR study, the US members of the Gemini Science Committee (GSC) and the Gemini Board have been working with NOAO to enable a new instrument start for Gemini in 2010. We ask you to respond to a short survey in order to identify the instrument that has the highest priority for a new start. Survey responses received by 1 September 2009 are assured of consideration by the GSC.

ReSTAR Update (NSF Commits New Funds for ReSTAR): NOAO has begun to implement the ReSTAR recommendations through new funds allocated by the NSF. The initial NSF award will provide **immediate access to the Palomar 200-inch telescope**, fund a copy of the OSMOS optical spectrograph for the Mayall 4-m, and enable upgrades to detector and controller systems at CTIO and KPNO. Proposals for the Double Spectrograph and TripleSpec on the Palomar 200-inch are likely to be accepted for the 2010A semester through the standard NOAO proposal process. Interested proposers are requested to consult the NOAO web pages for the latest on the status of this opportunity. The proposal deadline is 30 September 2009.

LSST Update (Science Collaboration Membership Applications Invited): All interested members of the US community are invited to participate in shaping the science of LSST through membership in the LSST Science Collaborations. Proposals are again being accepted through NOAO. The application deadline is 21 September 2009.

CHARA Opportunity (CHARA Open Access Proposals Invited): NOAO and Georgia State University announce a one-time opportunity for open access observations with the Center for High Angular Resolution Astronomy (CHARA) Optical Interferometer Array. Proposals will be accepted through the standard NOAO proposal process with a deadline of 30 September 2009. This call covers all of calendar year 2010 as opposed to the six-month period for other resources in the 2010A proposal cycle.

Your input is welcome on any of these issues. Please send your thoughts to currents@noao.edu.

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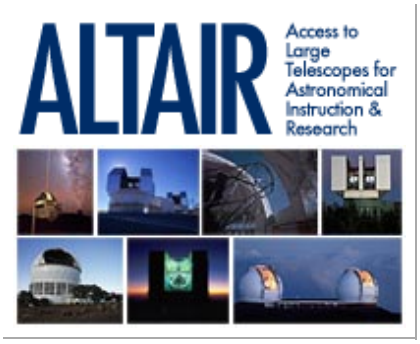
ALTAIR Update: Possible New Instrument Start for Gemini

One of the top recommendations of the Access to Large Telescopes for Astronomical Instruction and Research (ALTAIR) study was a call for an improved instrumentation suite at Gemini that is more responsive to the needs of the US community. In response, the US members of the Gemini Science Committee (GSC) and the Gemini Board have been working with NOAO to enable a new instrument start for Gemini in

2010.



The GSC is currently working to identify the capability that has the highest priority for a new start. Some top contenders are an optical echelle spectrograph (R ~ 40,000), an IR echelle spectrograph (R ~ 30,000; 1–5 microns), and an intermediate resolution O/IR spectrograph that is similar to X-Shooter at the VLT (single object; R = 4000–14,000; UV- to K-band in one shot). Spectrographs of this kind were identified as important "missing capabilities" in the ALTAIR survey. The GSC is currently deliberating on this topic in preparation for the next Gemini Board meeting that will take place in November 2009. The Gemini Board will decide whether to authorize a new start and for which instrument.

To provide input on the immediate instrumentation needs of the US community, please respond to a short survey regarding your views on this opportunity. Your views will be forwarded to the US members of the Gemini Science Committee as input to the Gemini instrumentation process.

Please **respond by September 1** in order for your response to receive full consideration by the GSC. We will report on the results of the survey and the GSC recommendations in a future issue of *Currents*.

The scope of the survey is limited by the rapid pace of development on this topic in the Gemini community. In the future, NOAO intends to encourage and facilitate broader discussions regarding the instrumentation needs of the entire US System.

On a related topic, the ALTAIR survey also revealed that many Gemini users wanted to be more directly involved in taking their own Gemini data. In response, NOAO continues to encourage classical observing for US Gemini observers. We will again offer to cover the cost of travel expenses associated with Gemini classical observing for the 2010A semester. Please see the September issue of the NOAO Newsletter for further details.

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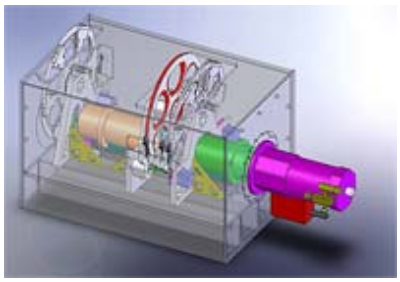
ReSTAR Update: NSF Commits New Funds for ReSTAR

NOAO has begun to implement the recommendations of the study on Renewing Small Telescopes for Astronomical Research (ReSTAR) through new funds allocated by the NSF. ReSTAR provided a compelling case for modernizing the capabilities on 2- to 5-m telescopes and increased access to these facilities.

In response to our ReSTAR proposal (see the December 2008 issue of *Currents*), the NSF has committed an initial $3M that will be used to improve community access to spectroscopic capabilities on 2- to 5-m telescopes. Following the prioritization given by ReSTAR, the NSF funds will be used to provide immediate access to the Palomar 200-inch telescope (which offers optical and near-infrared spectroscopic capabilities) and to build a copy of the OSMOS optical spectrograph for the Mayall 4-m telescope on Kitt Peak. In addition, NOAO

will begin a program to upgrade key optical detector and controller systems at CTIO and KPNO.

Palomar 200-inch Access: NOAO has now secured 23 nights per year on the Palomar 200-inch for an initial period of 3 years, through an agreement with Caltech Optical Observatories and at a cost of approximately $0.9M. The Palomar time was our highest priority, because it offers immediate access to spectroscopic capability in the optical (Double Spectrograph) and near-infrared (TripleSpec). Proposals for the Double Spectrograph and TripleSpec are likely to be accepted for the 2010A semester through the standard NOAO proposal process. Interested proposers are requested to consult the NOAO web pages for the latest on the status of this opportunity. The proposal deadline is 30 September 2009.



OSMOS: A longer term priority is to modernize the spectroscopic capabilities on the NOAO 4-m telescopes. These facilities offer the largest number of open access nights among 2- to 5-m aperture telescopes in the US System. Approximately $1.5M of the ReSTAR funding will be used to build a copy of the Ohio State Multi-Object Spectrograph (OSMOS; PI Dr. Paul Martini) for initial deployment at the Mayall. OSMOS is a versatile optical imaging spectrograph with high throughput VPH gratings, spectral resolution up to R=5000, and a 10 arcminute field of view. The expected throughput is more than twice that of capabilities currently available at NOAO 4-m telescopes. Ohio State and NOAO will modify the optical design, Ohio State will handle the detailed mechanical design and integration, and NOAO will provide a detector and controller package. While NOAO can currently commit to building only one copy of OSMOS, a second copy is possible if additional resources can be identified.

Infrastructure Upgrades: The remainder of the NSF award will be used to begin upgrading the detector and controller systems at CTIO and KPNO in order to enhance reliability and reduce readout times. Gains in sensitivity are expected as well. The highest priority systems for upgrade are the Mosaic-1 8Kx8K imager at KPNO and the Hydra multi-object fiber spectrograph at CTIO. The current intent is for Mosaic to receive new 4Kx4K CCDs and the new controller, Torrent, which has been developed at NOAO. Hydra would receive a new 2Kx4K CCD and a Torrent controller as well.

NOAO will continue to work with the NSF to secure funding for the outstanding portions of the ReSTAR proposal in the coming years (no commitment has yet been made). These funds would be used, for example, to offer longer-term access to Palomar or other System facilities, to build additional instruments (e.g., a copy of TripleSpec for the Blanco telescope), and to improve telescope-related infrastructure (e.g., wavefront sensors and guiders). NOAO is committed to pursuing these projects under the ReSTAR initiative, and in partnership with the NSF, will continue to plan for these developments as one of its highest priority missions.

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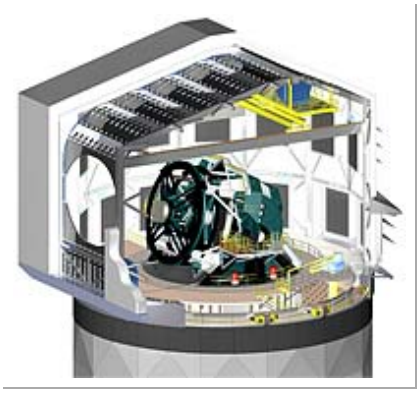
LSST Update: Science Collaboration Membership Applications Invited



The Large Synoptic Survey Telescope (LSST) project and NOAO announce the opportunity for interested members of the US astronomy and physics communities to participate in shaping the science for the LSST survey through membership in the LSST Science Collaborations. This is the second such opportunity to participate (see July 2008 *Currents*), and it is likely that there will be future opportunities as well.

Over the course of ten years, the LSST will perform a six-band, multi-epoch optical survey of half the sky with an unprecedented combination of speed and depth. These data will allow major advances in many subject areas, such as the following:

- Dark energy and dark matter
- Distant supernovae
- Large-scale distribution of galaxies
- Stellar populations
- Astrometry
- Structure of the Milky Way
- Solar System studies and near earth asteroids
- Time-domain investigations spanning many topics of interest

More information is available at:

http://www.lsst.org and http://arxiv.org/abs/0805.2366.

The Science Collaborations, which are opening their membership to the US science community, will help develop and document the science opportunities provided by the LSST, finalize the design of the system and observing strategy, undertake end-to-end simulations, commission instrument and data management systems, and develop and ultimately perform analyses of LSST science data. These collaborations are intended to work closely with the LSST construction project, although they are autonomous ventures.

Individuals (including groups of up to three) who wish to join an existing collaboration or to define a new collaboration are asked to submit a proposal through NOAO. Further details and information on applying for membership are available at:

http://www.noao.edu/lsst/collab_prop/Scicollab.htm.

The application deadline is 21 September 2009. Questions may be addressed to Tod R. Lauer at lauer@noao.edu.

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CHARA Opportunity: Open Access Time in 2010 with the CHARA Optical Interferometer Array

Steve Ridgway

NOAO and Georgia State University are announcing a one-time opportunity for observations with the Center for High Angular Resolution Astronomy (CHARA) Array at Mt. Wilson Observatory. Approximately 50 hours will be available during calendar

year 2010. The observations will be carried out by CHARA staff. This opportunity is intended primarily for scientists who would benefit from a small amount of data and wish to gain experience with optical interferometry capabilities.

Requests should be submitted using the standard NOAO proposal form by selecting "CHARA" in the telescope and instrument lists, and with "nights requested" as a decimal assuming 10 hours per night (e.g. 1.6 nights = 16 hours). Proposals must be submitted by the standard 2010A deadline of 30 September 2009. Note that this one-time call covers all of calendar year 2010, as opposed to the six-month period of February–July 2010 for other resources in the 2010A proposal cycle.

For more information, please see http://www.noao.edu/gateway/chara/

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Contact Us

Did something interesting, inspiring, or surprising happen on a recent observing run? Please tell us about it! Is there a topic that you would like to see covered in a future *Currents*? If you are planning a regional astronomy meeting or department internal symposium, would you like someone from NOAO to give a presentation on our new program? Please contact us at currents@noao.edu. We look forward to hearing from you!

Currents is a sparkplug for communication between NOAO and our community. It provides updates—and solicits community input—on NOAO observing opportunities and NOAO programs and policies on a more rapid timescale than is possible with the quarterly *NOAO Newsletter*.

NOAO is the national center for ground-based nighttime astronomy in the United States and is operated by the Association of Universities for Research in Astronomy (AURA), Inc. under cooperative agreement with the National Science Foundation.

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