



## Director's News

David Silva

### Engaging the Decadal Survey

Like most astronomy-related organizations, NOAO has been closely engaged with the Astro2010 decadal survey process in the last few months. Our strategic thinking continues to focus on the development of an optical/infrared (O/IR) system of ground-based facilities. This is a system allied for excellence in scientific research, education and public outreach, and funded by both federal and non-federal sources. For a more complete overview of the System, see "NOAO and the Ground-based O/IR System: A White Paper for the 2010 Decadal Survey" at [www.noao.edu/system/](http://www.noao.edu/system/).

Just in time for review by the appropriate Astro2010 panels, the Access to Large Telescopes for Astronomical Instruction and Research (ALTAIR) committee released its final report in mid-March ([www.noao.edu/system/altair](http://www.noao.edu/system/altair)). Focusing on the 6- to 10-meter aperture range, the ALTAIR committee gave high marks to the Telescope System Instrumentation Program (TSIP), concluding that TSIP has been successful and well received by the community of non-federal observatories and the open-access observing community, alike. TSIP provides funds to the large aperture telescopes to develop new capabilities in exchange for observing time administered through NOAO. To date, some \$24M in development funding has been allocated (approximately \$3-4M per year). The ALTAIR committee recommended the annual TSIP budget be increased to \$10M. The ALTAIR committee also identified an increase in US participation in Gemini as the most straightforward way to increase the number of open-access nights in this aperture range. This recommendation was contingent on a realignment of Gemini instrumentation to better meet US scientific interests, among other concerns. NOAO believes the ALTAIR report provides a framework that can help make Gemini a more effective observatory for all its partners. The ALTAIR report is the large aperture complement of the previously released

report by the Renewing Small Telescopes for Astronomical Research (ReSTAR) committee, which covered the 2- to 5-meter aperture class ([www.noao.edu/system/restar](http://www.noao.edu/system/restar)).

"A National Observatory for ground-based optical-infrared (O/IR) astronomy remains as necessary and relevant today as it was when NOAO was founded 50 years ago." So begins the white paper written by the Future of NOAO committee, also released in mid-March (see [www.noao.edu/system/future09](http://www.noao.edu/system/future09) for the full report). After summarizing the essential roles of a national observatory, the Future of NOAO committee described a "roadmap to 2020" for NOAO. This roadmap includes continued leadership in the O/IR System development (following the recommendations of the ReSTAR and ALTAIR committees), unification of NOAO and Gemini, continued participation in the Large Synoptic Survey Telescope, engagement with one or more Extremely Large Telescope projects, and increased support for survey science and associated technologies.

Responding to a general suggestion by Astro2010, NOAO and Steward Observatory sponsored a town hall meeting in Tucson on March 14. A spirited crowd debated a wide range of topics, with emphasis on state-of-the-profession issues like demographics, career development, and tools (e.g., data archives). NOAO also organized the Giant Segmented Mirror Telescope Community Assessment Review (GCAR) panel and charged them to provide independent assessments of the current status of the Giant Magellan Telescope and Thirty Meter Telescope projects. Separate reports from the assessment committee for each project will be submitted to Astro2010.

Last but not least, NOAO scientists contributed to 27 Science and 10 State of the Profession white papers. This was a tremendous effort by NOAO staff, which will hopefully serve the Astro2010 panelists well.

### NOAO and Gemini

It is clear from the final report of the ALTAIR committee that the US community-at-large has important concerns about the Gemini Observatory including, "(1) the lack of alignment between the Gemini instrumentation suite and the needs of the US community and (2) the time burden on proposers at all stages of the process to end up with scientifically useful data" (from the ALTAIR Report, Executive Summary). The recently released Gemini User's Survey carried out by Gemini themselves shows that users throughout the international Gemini partnership have similar concerns.

Motivated by such concerns, the Future of NOAO committee recommended that NOAO and Gemini be unified into a new observatory, for the benefit of all Gemini partners. Similar recommendations have been made in the past. They were controversial then, and they remain controversial now.

NOAO recognizes that it is not necessary for NOAO and Gemini to be unified to address the specific concerns documented by the ALTAIR committee. However, NOAO also recognizes that these concerns are real and that they reflect the careful thinking of the US community and its desire to remain engaged with an effective Gemini Observatory. NOAO hopes that the Gemini Observatory will respond to these concerns as quickly as possible. As one of the strongest advocates for Gemini in the US community, NOAO stands ready as always to help in any way it can.

### Budget Update

Compared to six months ago, the NOAO budget situation is much brighter. At the time of this writing, firm numbers are still unavailable, but here is what we know.

The final FY 2009 budget allocation for NOAO will be larger than the FY 2008 alloca-

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tion. This is very good news. Six months ago, a five percent reduction relative to FY 2008 was considered possible.

NSF has indicated that NOAO will receive significant funding from the American Recovery and Reinvestment Act (ARRA) for deferred maintenance and infrastructure improvement catch-up. This is also good news. NOAO has developed a long list of shovel-ready, bricks-and-mortar projects so we can

move forward quickly when such stimulus money becomes available.

Our Phase 1 ReSTAR implementation proposal is still under review. If approved, this proposal would fund telescope maintenance projects, new 4-meter class optical and infrared spectrographs, new 4-meter class telescope partnerships, and studies of new 2- to 4-meter class science capabilities for possible implementation in later ReSTAR phases.

The FY 2010 budget proposed by NSF for NOAO is still unannounced.

Hopefully, all these budget numbers will become known in the next few weeks. And when that happens, we will discuss the numbers with you and what it means for NOAO and the community. Look for the latest information in NOAO *Currents*, our email newsletter. ●

## Community Access to Ground-Based Optical Interferometer Arrays

*Stephen Ridgway*

The September 2007 *NOAO/NSO Newsletter* summarized the results of the NOAO Workshop on Ground-Based Optical Interferometry, held in mid-November 2006 (the resulting recommendations and roadmap may be found at: [www.noao.edu/meetings/interferometry/](http://www.noao.edu/meetings/interferometry/)). This article describes progress since that meeting.

Soon after the workshop, representatives of the active US interferometry facilities organized under the name United States Interferometry Consortium (USIC) with the intention of supporting the vision developed at the workshop. The USIC sponsored a series of splinter meetings at AAS and SPIE events over several years and, in May 2008, published an open invitation for participants in a number of working groups to develop white papers for the Astro2010 request for community input. These activities eventually attracted participation by more than 100 people, and some 20–30 who invested considerable time. In addition to Science, Technology, and State of the Profession papers, the USIC prepared one Activity paper: “MOISAIC: Milliarc-second Optical/Infrared Science—Access to Interferometry for the Community.” As suggested by the title, the proposal is centered on ensuring the health and productivity of interferometry as a community resource. The proposal invites Astro2010 to endorse peer-reviewed opportunities for array operations funding, with open community access and observer support services. The proposal also supports technology development and conceptual design of a next-generation array, the latter for consideration in a future decadal review. The USIC, its work, and its policy papers are thoroughly documented at its Wiki, [usic.wikispaces.com/](http://usic.wikispaces.com/).

Interestingly, optical interferometry was featured or mentioned in more than 60 Astro2010 Science white papers and was the subject of a dozen Activity proposals.

In the meantime, the field of interferometry has not been standing still. New detection systems have improved wavelength coverage and angular and spectral resolution. In the last few years, the rate of acquisition of spatial frequency data has increased by two orders of magnitude, and it will further increase in the next two years. Deployment of imaging capability is underway and will be the subject of a *Physics Today* article, which should be in print contemporaneously with this *Newsletter*.

How does this impact NOAO? Interferometry, which developed as a private/university and/or mission-oriented activity, offers few opportunities for open access by the US community. And yet, as the capabilities of interferometry grow, open access offers the most effective use of those facilities. The ReSTAR and the ALTAIR reports both mention the importance of interferometry to research, but in neither case recommended it as a top NOAO priority. The MOISAIC proposal by existing facilities, to open their doors through a University Research Office or portal like the Telescope System Instrumentation Program, would offer an appropriately scaled activity, which NOAO could support by adapting existing Time Allocation Committee (TAC) procedures.

General visitor use of optical interferometry poses interesting challenges: for the allocation process, for the facility, and for the user. In order to explore these at limited cost and risk, NOAO and Georgia State University are planning to announce a one-time opportunity for visitors to propose through the NOAO TAC to obtain interferometric data from the Center for High Angular Resolution Astronomy Array. This will be formally announced on the NOAO Web site in time for the 30 September 2009 TAC proposal deadline.