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Currents

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NOAO @ January AAS Meeting: Presentations from the following NOAO events at the 2017 AAS meeting in Grapevine, Texas are now posted. [[More...](#)]

- NOAO Town Hall
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- Open Access to Las Cumbres Observatory
- US National Gemini Office Mini-Workshop: Mining Observatory Archives
- Thirty Meter Telescope Open House
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Meeting on Developing a Time Domain Follow-up System: To foster the development of a time domain follow-up system capable of meeting community needs in the LSST era, NOAO and Las Cumbres Observatory will host a workshop on "Building the Infrastructure for Time-Domain Alert Science in the LSST Era" **22-25 May 2017** in Tucson. Visit the [meeting website](#) for further details.

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NOAO @ January AAS: Presentations and summaries from NOAO events at the 2017 AAS meeting in Grapevine, Texas are now available online. If you regret missing the events (or wish to relive the experience!), please follow the links below.

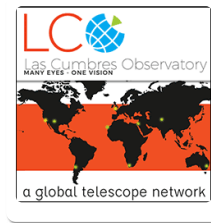
- **NOAO Town Hall:** NOAO Director David Silva [highlights new research capabilities](#) for the NOAO community (including new instrumentation, survey data sets, and data exploration tools) as well as future directions and opportunities.
- **NOAO Data Lab and the SMASH Survey:** The NOAO Data Lab team debuted the first data release from the Survey of the Magellanic Stellar history (SMASH DR1), which uses the Dark Energy Camera on the CTIO Blanco Telescope to image the stellar populations of our nearest Galactic neighbors. Visit the [Data Lab website](#) for access to the SMASH DR1 data and associated interfaces. A full release of Data Lab capabilities is scheduled for the June 2017 AAS meeting.
- **Open Access to Las Cumbres Observatory:** A splinter session organized by Las Cumbres Observatory (LCOGT)

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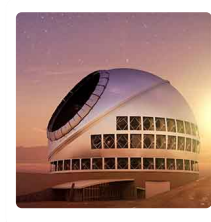
publicized the open access time available to the US community on their global network of telescopes. Observing time is available through the NOAO TAC via a [special call for proposals for 2017B](#) (submission deadline is 10 February 2017) and via the regular NOAO call for proposals beginning in 2018A. Presentations from the splinter session are [available online](#).



- **US National Gemini Office Mini-Workshop on Mining Observatory Archives:** [Workshop presentations](#) provide an introduction to the archives at Gemini (Andy Adamson, Andre-Nicolas Chene), IPAC (Harry Teplitz) and MAST (Scott Fleming) as well as the NOAO Data Lab project (Knut Olsen). Data Lab offers data mining tools and is a portal to large imaging data sets from NOAO telescopes.



- **Thirty Meter Telescope (TMT) Open House:** In [their presentation](#), Michael Bolte (UC Santa Cruz) and Caty Pilachowski (Indiana University) review the status of TMT, discussing the situation regarding Maunakea in Hawaii, and also La Palma in the Canary Islands, Spain, as the primary alternative site for the observatory. They also discuss opportunities for US community national participation in TMT.



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Zwicky Transient Facility Community Workshop

Steve Ridgway (NOAO), ZTF Community Science Advisory Committee Chair

Scientists from the [Zwicky Transient Facility](#) (ZTF), the ZTF Community Science Advisory Committee (CSAC), and interested members of the astronomical community met at an AAS splinter meeting to discuss the public surveys to be carried out with ZTF. Science objectives for ZTF include ultraluminous supernovae, the early detection of supernovae, stellar variability of all kinds (especially interacting binaries, flaring, and stellar rotation), tidal disruption events, discovery of Near-Earth Objects, asteroid rotation curves, comet activity, and serendipity. The splinter meeting was carried out in workshop format, with approximately half of the time devoted to a wide-ranging discussion of ZTF and community interests and concerns.



What is ZTF? An upgrade of the Palomar Schmidt, ZTF is equipped with a large CCD array that covers 47 square degrees and surveys the sky in g and r . The survey instrumentation and strategy are designed for variable and transient science. Forty percent of the survey time will be dedicated to a public survey and the remainder to “private” surveys for ZTF consortium members. All data will be processed through a single pipeline. Public data will be released as soon as they are archived, and all “private” data will be available through the same archive but with a delay.



ZTF focal plane design - Sixteen 6.1k x 6.1k e2v CCDs, on a curved focal surface, covering 47 deg².

Credit: Roger Smith / Alex Delacroix / Michael Feeney, Caltech Optical Observatories

Community Survey. ZTF commissioning is expected to start in November 2017, with the community survey to begin immediately after commissioning, approximately 1 year from now. Data release will begin as early as possible in the first year. Nightly transient alerts will begin as soon as possible (following the training of algorithms for automated control of false positives). The aggressive data release schedule, as well as a number of other planned enhancements to the data system, are dependent on further fund raising.

As described by Principal Investigator Shri Kulkarni and Project Scientist Eric Bellm, the community survey will be carried out as *g/r* image pairs, with the two images separated in time by about 1 hour in order to confirm variability and to detect the motion of solar system bodies. The Galactic plane will be imaged in *g* and *r* every night, and the full sky will be imaged in *g* and *r* every 3 nights.

While it was clear from the discussion that no cadence will please all potential users equally, all should know that experiments with other cadences will be carried out during the first year of operations, and after the first year, ZTF and the CSAC will engage the community in discussing the survey strategy for the second and third survey years.

Transient Alerts. ZTF will provide transient alert data packets that emulate as much as possible the planned LSST alerts. However, support for correlation with other databases and user filters will be needed. An external “event-broker” process will be highly desirable. The NOAO/UA [ANTARES](#) broker group is exploring deployment of ANTARES on the ZTF alert stream as a high-impact community science-enabling opportunity and an important pre-LSST test of the system.

Community Coordination. There was discussion at the workshop of possible coordination in the community to take advantage of the ZTF opportunity. While the supernova community is well organized, those interested in other topics might consider forming similar science interest groups. Strategies developed to work with ZTF could be expected to roll over naturally into the LSST era.

Additional Resources. ZTF is a follow-on to the [PTF](#) and iPTF surveys, which produced more than 4M images, now available interactively and via API as one of the largest datasets at IPAC, including 600M objects with light curves. Details are available at http://www.ptf.caltech.edu/page/data_access

Further information on the facility and surveys is available at the [ZTF web site](#). The presentations from AAS splinter session are available at: http://www.ptf.caltech.edu/page/ztf_workshop_aas229

ZTF will be among the topics of discussion at the NOAO/Las Cumbres Observatory (LCOGT) conference “[Building the Infrastructure for Time-Domain Alert Science in the LSST Era](#)”, to be held in Tucson 22-25 May 2017. This meeting is particularly timely, as proposals to use community access to LCOGT for ZTF follow-up early in the first year of the survey will be due to the NOAO TAC in the fall of 2017.

ZTF and the CSAC tentatively plan to organize another community forum shortly after commissioning data becomes available, possibly as soon as the January 2018 AAS.

(An earlier version of this story referred to Las Cumbres Observatory by the acronym LCO. This has been updated to LCOGT to avoid confusion with Las Campanas Observatory.)

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Protecting Dark Skies for Astronomy and Life

Constance Walker (NOAO)

Artificial light at night is a threat to astronomical research, personal safety, and the health of humans and wildlife. To address the challenge posed by the proliferating use of LEDs for billboards and street lighting, NOAO, in partnership with the AAS Committee on Light Pollution, Radio Interference and Space Debris, held a [workshop](#) to showcase successful strategies for reducing light pollution. The workshop included presentations ([see below](#)) by Chris Smith and Lori Allen (NOAO), Jeff Hall (Lowell Observatory), Dan McKenna (Palomar Observatory), John Barantine (IDA), and Chris Monrad (Monrad Engineering). Martin Aubé, an expert on LED light modeling, gave an AAS-invited plenary talk on “The LED Outdoor Lighting Revolution: Opportunities, Threats, and Mitigation.” The AAS Council also announced a [three-part resolution on light pollution](#) that calls on all AAS members to protect dark skies in their communities.



Image Credit: [Babak A. Tafreshi](#)

Light Pollution Workshop Presentations

- [Agenda](#)
- [Introductory Slides](#)
- [Session 1.1, Lori Allen](#)
- [Session 1.2, Jeff Hall](#)
- [Session 1.3, Dan McKenna](#)
- [Session 1.4, Chris Smith](#)
- [Session 2.1, Lori Allen](#)
- [Session 2.2, Jeff Hall](#)
- [Session 2.3, Dan McKenna](#)
- [Session 2.4, Chris Smith](#)
- [Session 3.1, John Barantine](#)
- [Session 3.2, Chris Monrad](#)
- [Session 3.3, Dan McKenna](#)
- [Session 3.4, Bill Wren](#)
- [Session 3.4b, Bill Wren](#) (Audio file, last 7 minutes)

Media

- [Photos from the Workshop](#)
- [Questions for and Answers from the Panel of Observatory Directors & Representatives](#) [Link to YouTube video]
- [Panel of technical experts](#) [Link to YouTube video]
- [Panel of Observatory Directors & Representatives](#) [Link to YouTube video]

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Contact Us

Your input is welcome on any of these issues. Please send your thoughts to:

currents@noao.edu.

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 *NOAO Newsletter*.

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