

CATAC report to CASCA Board

June 5, 2023

CATAC activities

CATAC continues to meet regularly (every 2-4 weeks) to receive updates from our TMT Board and SAC representatives. Confidential negotiations are taking place between the partners and the NSF that will further define the governance and share structure under NSF participation. Our task at the moment is to remain informed and ready to provide advice as details of this model become available.

TMT Project update

Two Canadian seats on the TIO Board are also unfilled. One is being held for the next Executive Director of ACURA (or their delegate), replacing Don Brooks. The other is normally drawn from the CASCA community, and is currently open. That member also serves as a (non-voting) Board representative on the SAC.

Stan Metchev has replaced Tim Davidge as the SAC Co-Chair. Tim has requested to be replaced as a Canadian representative on the SAC, but has agreed to continue until the position is filled. Volunteers and nominations should be brought to either the CATAC Chair or the HAA Director.

The process following Astro2020

The National Science Foundation (NSF) Environmental Impact Statement (EIS) and Section 106 process is underway, with updates and FAQ provided here:

<https://beta.nsf.gov/funding/environmental-compliance/thirty-meter-telescope>. The volume of comments submitted during the scoping process has resulted in further delay. A revised timeline is not available yet, but will be posted to the website above.

The NSF's Preliminary Design Review (PDR) of the US Extremely Large Telescope Program (US-ELTP) took place in two phases. The first phase, focused on technical readiness of TMT, was completed at the end of 2022; the programmatic (governance, operations etc) were reviewed separately at the end of January 2023. Both reviews were largely positive, though the Project is still awaiting the final written document. Negotiations with the NSF are ongoing, to establish an appropriate model for governance and partner shares in the case of NSF participation. There has been no update on the schedule for the Final Design Review (FDR), which would normally take place about 1-1.5 years after the PDR.

Maunakea

Decommissioning of the Caltech Submillimeter Observatory (CSO) is proceeding and this is being closely monitored by the [Mauna Kea Stewardship Oversight Authority \(MKSOA\)](#).

Detailed, up to date information about the process is available at the CSO website:

<http://www.cso.caltech.edu/wiki/cso/outreach/outreach>.

Chair Komeiji, Member Wong-Wilson and Member Mastuda from the MKSOA were invited to share information about this new body at the American Astronomical Society meeting in January 2023. The panel discussion was recorded and is publicly available at

<https://vimeo.com/787978712>.

Roque de los Muchachos Observatory (ORM)

An appeal to the Supreme Court by the environmental group Ben Magec has been dismissed. The legal right to construct TMT on ORM is therefore maintained and no further legal obstacles to the land concession are anticipated. All construction permits are in place. However, Mauna Kea remains the preferred site for TMT construction, and this is likely to remain the case until the NSF process has concluded.

Technical Developments

- The TMT Science case published in 2014 underwent minor updates last year and is available [here](#). In response to the NSF PDR, the International Science Definition Teams have now identified chapter editors to further update this case, to account for new results and ideas not presently captured and for removing or correcting outdated descriptions.
- Dynamic Technologies (the Canadian company that is supposed to build the dome) declared insolvency last month. The company is still operating, and still retains the expertise to carry out the work. The Intellectual Property is owned by NRC, and there are other companies in Canada with the necessary expertise.
- The TMT Project submitted two design and development proposals to NSF, to help bring several critical systems to the PDR stage. A response to these proposals has not yet been received.

Meetings and consultations

- CATAAC members were invited to join a GAC meeting with Michele Cirasuolo from the ELT, on Feb 27. The ELT is aiming for technical first light in 2028, which means light passing through to the telescope without any instruments. It is anticipated that the first instrument, MICADO, will be commissioned at the end of 2028.
- CATAAC members were invited to a GAC meeting with Rebecca Bernstein from the GMT, on May 1. Dr. Bernstein reviewed the status of the GMT project and instrumentation, with a detailed emphasis on how the instrumentation is complementary to that of TMT.

- In April, the second in a series of public TMT webinars was held. This one focused on first-light instrumentation capabilities. The video and the PDFs of the presentations are posted at <https://www.tmt.org/page/sac-webinars>.

Membership

Michael Balogh (University of Waterloo), Chair Jan 2017 - Dec 2025 (3 terms)

CASCA appointees

Bob Abraham (University of Toronto; TIO SAC) Nov 2018 - Oct 2024 (2 terms)

Laura Ferrarese (NRC) Nov 2018 - Oct 2024 (2 terms)

Jason Rowe (Bishop's University) Dec 2022 - Nov 2025

ACURA appointees

Stefi Baum (University of Manitoba) Jan 2017 - June 2023 (2 terms)

Harvey Richer (UBC) Jan 2017 - June 2023 (2 terms)

Stan Metchev (Western) Jan 2023 - Dec 2025 (1 term)

Ex-officio members

Luc Simard (Director General of NRC-HAA)

Chris Wilson (Interim CASCA President)

Tim Davidge (NRC, observer)

Kim Venn (ACURA Chair, observer)

According to the ToR for this committee, term limits are three years, renewable. The second term of Baum and Richer expired in Dec 2022 and, following discussion with the ACURA chair, were extended to June 2023. These should now either be formally renewed for a third term, or replaced.