CATAC Report

Nov 30, 2018

Membership

Michael Balogh (University of Waterloo), Chair
Bob Abraham (University of Toronto; TIO SAC)
Stefi Baum (University of Manitoba)
Laura Ferrarese (NRC)
David Lafrenière (Université de Montréal)
Harvey Richer (UBC)
Kristine Spekkens (Royal Military College of Canada)

Luc Simard (Director General of NRC-HAA, non-voting, ex-officio)
Don Brooks (Executive Director of ACURA, non-voting, ex-officio)
Rob Thacker (CASCA President, non-voting, ex-officio)
Kim Venn (Science Governor for Canada on TIO Governing Board, non-voting, ex-officio)
Stan Metchev (TIO SAC, non-voting, ex-officio)
Tim Davidge (TIO SAC Canadian co-chair; NRC, observer)
Greg Fahlman (NRC, observer)

Changes

Rob Thacker has taken over as CASCA President, and Bob Abraham has been appointed to CATAC as a CASCA representative, filling a vacant position. The second CASCA representative, Sarah Gallagher, resigned in November to focus her time on her new CSA duties; she has been replaced by Laura Ferrarese. Finally, Luc Simard was recently announced as the Director General of NRC-HAA, so he remains on CATAC in this new capacity. Greg Fahlman remains on the committee as an NRC observer. Kim Venn joined the committee as the Canadian BoD member, replacing Doug Welch. She also serves on the SAC in this capacity.

Meetings

CATAC has met approximately biweekly via telecon. A record of these meetings is on our web page http://casca.ca/?page_id=8347 and, where possible, minutes are shared publicly.

Construction

The big news in the past months has been the positive ruling in both contested cases before the Hawai'i Supreme Court. First, in August, the Court ruled unanimously in favour of TMT on the issue of the sublease. Then, at the end of October, the Court delivered a 4-1 decision to uphold the Conservation District Use Permit issued to TMT by the Land Board. This is welcome news, that now gives TMT the legal right to restart construction. While it is expected that there will still be protests, the latest polls show very strong support for TMT among Hawaiians, and there is strong support within government as well. We are therefore hopeful that construction can begin soon.

While the scientific preference remains to build on Maunakea, there remain other considerations, including the possible need for a US federal Environmental Impact Statement that could further delay the project if it is built in Hawai'i. In September, CATAC reaffirmed to our TMT Board members that Maunakea remains the strongly preferred site, and that from a scientific perspective this preference is not altered by the possibility of further delay. At the time of writing, the Board has not issued a decision about when or where construction will restart.

Instrumentation

The SAC met in October to recommend a design choice for the Wide Field Optical Spectrograph, one of two first light instruments on the TMT. CATAC's public report on the three designs under consideration was made available to SAC members. The SAC recommended that the project pursue the multi-slit imaging spectrograph design (Xchange), which was also the design preferred by CATAC. This concept will be the baseline for further development.

In August, a SAC subcommittee met to discuss the instrumentation white papers that had been submitted earlier this year, and they presented their recommendations to the SAC. This exercise was meant to identify general capabilities and teams. There may be some funds made available by the Project Office for design studies. There is also likely to be a proposal to NSF, possibly jointly with GMT, for instrumentation funding. It is notable that a report issued in September by the National Academic of Science, Engineering and Medicine was strongly supportive of US involvement in a large telescope and, furthermore, recommended that exoplanet instrumentation should be a priority.

A conceptual design review of an adaptive secondary mirror was held in October, and no show stoppers were identified. However, there are risks associated with deploying an AM2 at first light, and it complicates comissioning. While an AM2 could have a big impact on future instruments, simplifying their design, it will not significantly affect WFOS or IRIS. Therefore, while there is interest in this being an early capability, it may not be necessary to push for it to be ready at first light.

CATAC activities over the coming months will be focused on the plan for instrumentation development beyond WFOS and IRIS. In particular we will consult with the community and make a comment on a development plan that makes sense for Canada.

Community engagement

The TMT Science Forum will be held Dec 10-12, 2018, in Pasadena. The theme of the meeting is “Breakthrough Science with the Thirty-Meter-Telescope” and, as in past meetings, includes breakout sessions led by the International Science Development Teams. CATAC has been active in encouraging Canadian participation, and in obtaining funding from ACURA to support their travel. At the time of writing, 13 Canadians have registered.

We note that CATAC was contacted by *Nature* for a statement following the second Supreme Court decision in favour of TMT. This is a good indication that our committee is successful in its role of being the public face of the project in Canada.

Upcoming meetings and events

TMT Science Forum, Dec 10-12. Pasadena, California
TMT SAC meeting, Dec 13, Pasadena, California
Conference, “Extremely Big Eyes on the Early Universe”, UCLA Jan 28-Feb 1, 2019.