



ALMA BOARD MEETING
April 10-12, 2019

PUBLIC SUMMARY

The ALMA Board convened at SCO between the 10th and 12th of April, with the following attendees:

Chair	Karin Öberg (NA)
Vice-Chair	Toshikazu Onishi (EA)
Board Members	Richard Green (NA) Xavier Barcons (EU) Saku Tsuneta (EA) Willy Benz (EU) James Di Francesco (NA) Daniel Weselka (EU) Tony Beasley (NA) Linda Tacconi (EU) You-Hua Chu (EA) Luis Chavarría (CL)
Board Assessors	Joseph Pesce (NA) Andreas Kaufer (EU) Satoru Iguchi (EA)
Observers	Adam Cohen (AUI) Patrick Koch (ASIAA)
JAO	Sean Dougherty (ALMA Director) Stuartt Corder (ALMA Deputy Director) John Carpenter (Observatory Scientist) Frank Ruseler (Head of Administration) Norikazu Mizuno (Head of Engineering) Ivan Lopez (Safety Manager) Jorge Ibsen (Head of Computing)
Executives	Paulina Bocaz (AUI Legal representative in Chile) Shin'ichiro Asayama (NAOJ Legal Representative in Chile) Leonardo Testi (ESO ALMA Programme Manager) Phil Jewell (NRAO ALMA Program Manager) Álvaro González (NAOJ ALMA Program Manager)
ASAC	Stephen White (ASAC Chair)
Board's Secretary	Alejandra Voigt (ALMA Executive Officer)

PUBLIC SUMMARY

The ALMA Board held its April 2019 meeting, at the Santiago Central Office (SCO), Chile.

The Board's Chair, Dr. Öberg, welcomed the new Board Assessor appointed by ESO, Daniel Weselka.

Dr. Öberg also welcomed Leonardo Testi, Phil Jewell and Alvaro Gonzalez, ALMA Program Managers, Adam Cohen (AUI) and Patrick Koch (ASIAA), who joined the meeting as observers, Paulina Bocaz and Shin'ichiro Asayama, AUI/NRAO and NAOJ legal representatives, respectively, and Stephen White, the ASAC Chair.

In addition to other matters, during the meeting the Board:

1. Endorsed the preparations for the 2019 ALMA International Visiting Committee Assessment
2. Approved the revision of the Principles of the ALMA Development Program
3. Approved the Phase 1 of the Band 2 Development Project

ALMA Overview

The Board noted the presentation given by the ALMA Director, regarding the achievements and challenges for ALMA in the coming year, including:

- EHT results and the well-organized and successful press conference held in SCO.
- The evolution of the ALMA systems that are reaching steady-state efficiencies, notably available Array elements and observing hours.
- The rapid recovery of the Observatory, especially the OSF-AOS road, following the heavy rains during the altiplano winter in February.
- The objectives for the Observatory during 2019 and the longer-term, including operations enhancements and organizational restructures to gain in efficiency, efficacy and (some) economy.
- The challenges and the fiscal and program risks in 2019-2020.
- The JAO internal communication strategy, including the JAO purpose and values, enhancements to newsletters, staff communiques, all-hands, open doors, and engagement with managers.
- The structural changes to HR service delivery at the OSF, and additional services such as the EAP.

ALMA Operations

The Board noted the presentation given by the Deputy Director, regarding the latest activities, and operational status since November 2018, including:

- 12 months of uninterrupted monthly KPI reports, which are used actively at the JAO for observatory operations performance management.
- The high antenna element number available.

- The challenges in meeting data processing targets, mainly due to QA3 issues that forced re-processing of data sets.
- Improvements to increase the science time, such as flexible technical time.
- Major operational risks for Cycle 6 goals completion.
- Proposal submission ongoing for Cycle 7 and the preparations for the supplemental call for the ACA in September 2019
- Capabilities priorities as defined with the new ObsMode process, with the main priorities on high frequency and polarization.
- Weather recovery project, which include many initiatives and different system improvements to enable faster recovery of the array after winter storms.

Scientific Matters

The Board noted the presentations given by the Observatory Scientist, the Chair of the Board's Science Committee and the Chair of the ASAC, regarding:

- The outstanding scientific results since last November for both regular and large programs.
- The preparations for Cycle 7 APRC (main call),
- Cycles 8+9 priorities for capabilities to be offered to the community, pipeline priorities and Cycle 8 review process model, which will be held again in Atlanta, USA.
- The intention to move to the distributed peer review model from Cycle 9 onwards.
- The recommendations from the ASAC regarding the scientific and technical performance of the Observatory and the expectations from the scientific community, including the impact of the development Program.

Financial Matters

The ALMA Board noted the report of the ALMA Budget Committee on the 2018 budget execution and financial results and 2019 projections to the end of the year and the long-term planning for the next 5 years.

The Board also discussed the risks and challenges ahead and the management approach to identify opportunities for efficiencies and efficacy within the Observatory.

ALMA International Visiting Committee, 2019 Assessment

The ALMA Director summarized the status of preparations for the 2019 assessment of the ALMA observatory by an International Visiting Committee (IVC). This includes a new document that summarizes the ALMA organizational structure, governance and operations plan and references to the related, updated documentation that the IVC will review.

The objective of the IVC is to assess the status of the ALMA Project, offering an independent and objective assessment and recommendations, in accordance with the ALMA Agreement. The IVC shall broadly and periodically conduct this assessment, in order to evaluate whether

the scientific and technical efforts of ALMA are appropriate, productive and of the highest quality.

The 2019 Committee is composed by Jim Oschmann (Ball Aerospace), who is also the Chair of the IVC, Andrew Baker (Rutgers University), Ewine van Dishoeck (Leiden University), Kathryn Flanagan (US Space Telescope Science Institute), Thomas Henning (Max Planck Institute for Astronomy), Noriyuki Kawaguchi (Japan), Kazuhisa Mitsuda (JAXA/ISAS) and Patrick Roche (Oxford University)

The IVC will be visiting the ALMA Support Centers at the three Executives in the regions between June and July and will visit the OSF and SCO during the week of September 23rd.

Chilean ARC Initiative

The Board received a detailed update from the Chilean Government on the efforts to develop a Data Observatory Foundation, which intends to host an ALMA Regional Center for the Chilean Community.

ALMA Development Program Update

The ALMA Board noted the presentation by the ALMA Deputy Director on behalf of the AMT regarding the status of the ALMA Development Program. This covered the on-going projects and studies, the projects that will be submitted for approval in the near future and a summary of the scope of upcoming calls for proposals within the three regions. The Board also noted the update on Band 1 given by the project PI, Patrick Koch, from ASIAA, including the revised schedule for delivery of the project.

The Board also noted the update on the status of the ALMA Development Roadmap Implementation Plan that will define the processes to accomplish the highest-priority directions for the Development Program as identified in the ALMA's long-term vision.

Finally, the Board approved the Phase 1 of the Band 2 Development Project, as well as a revision of the ALMA Development Principles to enable a project to demonstrate technical readiness, and to be funded accordingly; also to formally charge the AMT to administer the requirement assessments for Development projects.