

The MAYA 2022 Conference: Propelling ALMA Early-career Astronomers into the Spotlight

Sebastien Muller¹
 Abhijeet Borkar²
 Katharina Immer³
 Elisabetta Liuzzo⁴
 Marcella Massardi⁴
 Gergö Popping⁵
 Alvaro Sanchez-Monge⁶

- ¹ Nordic ARC node, Onsala, Sweden
- ² Czech ARC node, Ondrejov, Czech Republic
- ³ Allegro ARC node, Leiden, The Netherlands
- ⁴ Italian ARC node, Bologna, Italy
- ⁵ ESO
- ⁶ German ARC node, Bonn-Cologne, Germany

The first Meeting for ALMA Young Astronomers (MAYA) organised by the European ALMA Regional Centre (ARC) network (Hatziminaoglou et al. 2015) took place online from 2 to 4 March 2022. It was a successful and inspiring event, well attended, with 40–80 participants at any one time. After two years of limited opportunities for socialising because of the COVID-19 pandemic, the event was aimed at gathering together early-career scientists, primarily graduate students and junior postdocs, and giving them the chance to present their work based on ALMA data to their peers, to interact with each other, and to build new collaborations and projects.

Planning the first MAYA

The idea of organising a conference for young scientists, focusing on ALMA science, had already been in the air for some time. It was discussed further at the end of November 2021 by the European ARC network visibility group, consisting of staff working in the different European ARC nodes. As is often the case, setting a date for the event was challenging. Conflicts with other calendar constraints had to be avoided as much as possible, in particular the critical period of a couple of weeks just before the ALMA deadline. On the other hand, organising the conference some time before the deadline arguably offered a good opportunity to build some momentum for the preparation of ALMA proposals, possibly with new ideas and new



Figure 1. The MAYA logo, including the Lamat Mayan star, symbol of fertility, abundance, and a new beginning.

180 registrations (Europe: 76%; North America: 9%; Asia: 7%; South America: 5%; unknown: 3%; from more than 30 different country affiliations. See Figure 2 for a pie-chart of the main contributors) and nearly a hundred submitted abstracts for oral presentations. Those numbers exceeded all our expectations and clearly highlight the community's interest in such events and the need for opportunities for a whole generation of students and young researchers to present their work in a scientific conference setting.

collaborations. We formed a Scientific Organising Committee (SOC) from members of the network visibility group. Eventually a time slot in early March 2022 emerged, which left us with only three short months for advertising the conference, allowing enough time for registration and abstract submission, reviewing the abstracts, building a programme, and finally giving the speakers about two weeks notice before the actual start of the conference. The excellent, friendly working atmosphere within the SOC allowed us to overcome this challenge and eventually transform the MAYA concept into a successful event.

Building a programme

The conference was originally planned to run over three days, with two sessions of two hours each per day. We received

We decided that a format with talks of 15 minutes, followed by five minutes of questions, was the best compromise between a fair cadence of talks, enough time for the speaker to properly present their work, and time for questions and discussion. However, this setup was imposing a drastic abstract selection to match the original schedule. After considering parallel sessions, which we gave up on because of the complexity of the organisation and the crowded schedule readability, we eventually decided to extend the session duration to three hours, with a short break in the middle, allowing for 50 live talks. The participants with non-selected abstracts were given the opportunity to upload prerecorded talks to the European ARC YouTube channel. All talks (live and prerecorded) are now available in a combined MAYA2022 playlist¹.

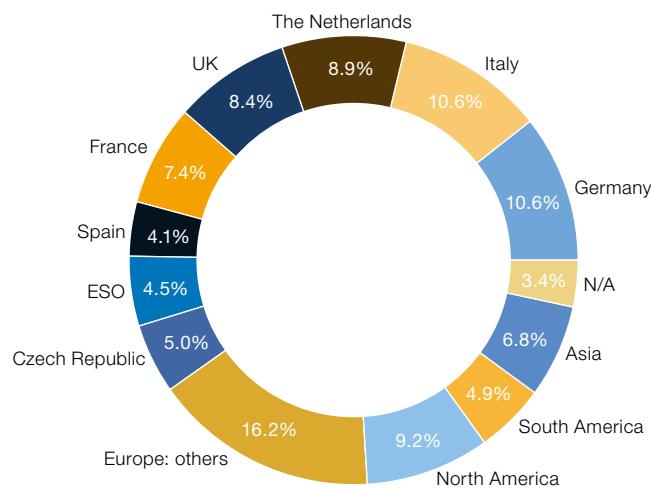


Figure 2. Distribution of registered participants' affiliation by main countries/regions. More than 30 different country affiliations were represented.

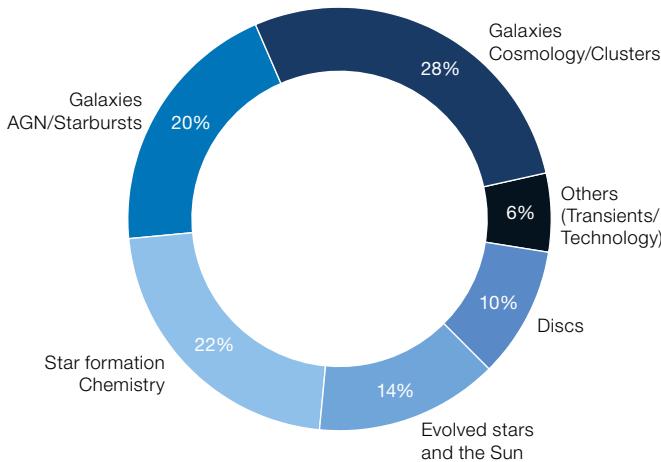


Figure 3. Topic distribution of the live talks.

The MAYA meeting was organised on the Zoom platform. To make it as convivial as possible, we avoided the Zoom Webinar format and encouraged participants to keep video mode open. During talks, questions could be entered in the Zoom chat, and the Slack platform was used as a complementary communication channel for follow-up discussions on questions and conference announcements. All questions were gathered into Slack and addressed by the respective speakers.

Stimulating interactions during an online meeting

Besides the traditional series of talks, we wanted to incorporate various social activities to create a relaxed atmosphere and increase the chance for participants to interact with each other.

The first activity was a quiz game, run in several parts during the coffee breaks. All the questions were related to ALMA, covering its different components like the antennas, receivers, correlator, etc. However, the answers were of different flavours: for example, participants had to guess the equivalent surface of a 12-metre ALMA antenna in the special unit of a ping-pong table area (answer: 27) or the total amount of energy that would be collected by the array after 30 years of observation of a 1-Jansky source (answer: about the potential energy of a snowflake falling from a height of one meter). The top five winners were offered gifts in the form of ALMA mounted images from the ESO Webshop or an ALMA LEGO® antenna.

We also organised social events in the evenings for discussion and playing online games. Although we were worried that this would increase the length of already long days, it turned out that this was a wonderful way to relax and get to know each other better. Several games were proposed, like inviting others to guess a word from a drawing³; astronomy-related terms like “gravitational lens” or “white dwarf” turned out to be challenging and a lot of fun for both the artist and the guessers! We also played a “GeoGuesser” on geostatic⁴. In this game, the players are dropped somewhere on Earth on Google Street View,

What did you like most about the event?
42 responses

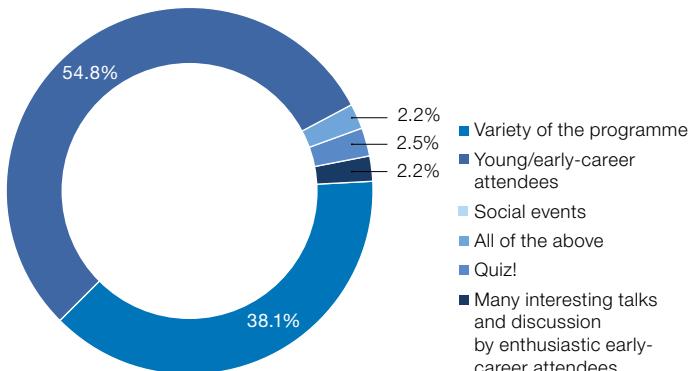


Figure 4. Excerpt from the questionnaire feedback.

The abstract selection and construction of the programme were hugely challenging, given the impressive quality of all the abstracts and the broad range of science topics. We decided to organise sessions with mixed topics (Figure 3), in order to expose participants to science fields other than their own, switching, for example, from ALMA solar science to chemistry in proto-planetary discs and to star formation in high-redshift galaxies in one session. According to the participant feedback, this setup and the programme variety were much appreciated (Figure 4).

We also had the pleasure of welcoming two invited talks. Leonardo Testi (ESO) spoke about the Joys and Tribulations of Building a Transformational Observatory. Leonardo presented an inspiring overview of the challenges of building a revolutionary telescope like ALMA. In particu-

lar, he included many anecdotal details with a taste of humour. Violette Impellizzeri (Allegro node) presented an overview of the European ARC network and the services the network provides. She discussed the in-person or virtual face-to-face support provided by the nodes for proposal preparation, data reduction and analysis, and archival science mining. In addition, Violette introduced the various activities and resources provided by the ARC network, such as schools, ALMA days, and tutorials (such as, for example, the Interactive Training in Reduction and Analysis of INterferometric data series, ITRAIN, also available as a playlist² on the European ARC YouTube channel). She also highlighted the computational support provided by the nodes for ALMA data handling and the development of software tools to support users with their ALMA science.

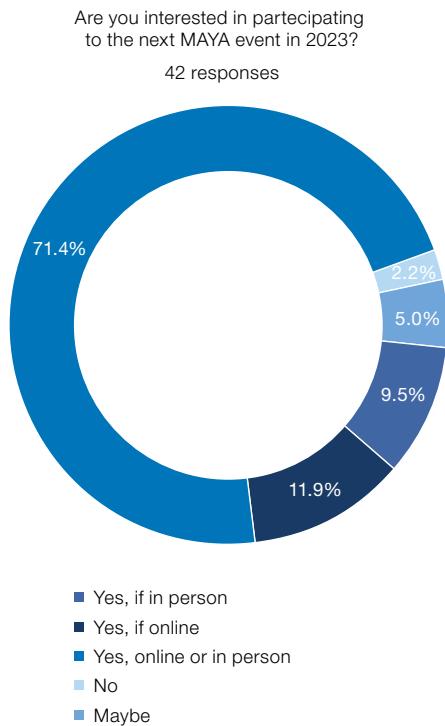


Figure 5. Excerpt of the questionnaire feedback.

and they have to guess where they are by exploring the surroundings. Depending on the location, this can be much more tricky than it seems. We found out that it was a great advantage to have international participants in the team, with various cultural backgrounds. This helped participants to quickly recognise road signs in various languages, or building styles: a perfect example of “together we are stronger”.

Concluding remarks

After such an overwhelming success, very positive feedback, and the fun of organising the first event, we are already thinking about a future MAYA. The main question is whether to hold it online or on site. An online meeting has the advantage of reaching more people, especially from countries that are still developing their ALMA science exploratory capacity. It is also easier to organise, removing general logistics issues related to finding an appropriate venue and catering. On the other hand, on-site has the immense benefits of immediate and easy-going social interaction, which is so important

for young scientists. However, according to the results of the feedback questionnaire, there is no strong preference for either on-line or on-site (Figure 5). The words of Baron Pierre de Coubertin still apply: *“The important thing is to participate.”*

Certainly, this first MAYA proved that there is a desire on the part of young astronomers to interact, communicate, share results, and establish contacts. The future generation of ALMA scientists is already there, mature, enthusiastic, and very dynamic — and already producing amazing science results.

References

Hatziminaoglou, E. et al. 2015, The Messenger, 162, 24

Links

¹ MAYA2022 playlist: https://www.youtube.com/playlist?list=PLSPuDgCIX-pYJkZ3VEd_SewcPkPh-5BpyE

² ITRAIN playlist: <https://www.youtube.com/playlist?list=PLSPuDgCIX-pbJTT8Q9KdBVFsVBsl-zlu2p>

³ The drawing game: <https://skribbl.io/>

⁴ Geostatic: <https://geotastic.net/home>



Four antennas of the Atacama Large Millimeter/submillimeter Array (ALMA) gaze up at the star-filled night sky, in anticipation of the work that lies ahead. The Moon lights the scene on the right, while the band of the Milky Way stretches across the upper left.