

Report on Communicating Astronomy with the Public (CAP) Conference 2018

Oana Sandu¹ and Sze-leung Cheung²

¹European Southern Observatory
Karl-Schwarzschild-Strasse 2 D-85748 Garching bei Munchen Germany
email: osandu@partner.eso.org

²Office for Astronomy Outreach, International Astronomical Union,
Office: 310 South Building, National Astronomical Observatory of Japan 2-21-1 Osawa,
Mitaka, Tokyo, 181-8588, JAPAN
email: cheung.szeleung@nao.ac.jp

Abstract. Since 2003, the Communicating Astronomy with the Public (CAP) Conference has facilitated the exchange of ideas and best practices among professionals in the field. This paper reports on the latest edition, CAP 2018, organised in Fukuoka, Japan. It presents a few quantitative outcomes of the conference, the programme and a selection of ideas that were presented and discussed during the meeting. For further details, please consult the Book of Proceedings Communication Astronomy with the Public Conference 2018 2nd Edition, available at: <https://www.communicatingastronomy.org/cap2018/>

Keywords. communication, outreach, CAP Conference, challenges.

1. Presentation of the CAP Conference

Since 2003, the Communicating Astronomy with the Public (CAP) Conference has facilitated the exchange of ideas and best practices among professionals in the field. The CAP 2018 programme included: 5 keynote talks, 24 plenary talks, 141 talks in parallel sessions, 4 unconference slots, 111 posters and 24 workshops.

The local organisation of the 2018 edition was led by the National Astronomical Observatory of Japan (NAOJ) and Fukuoka City, supported by a very strong national and local team of astronomy communicators, city officials and other partners. The Scientific Programme of the conference was led by the IAU Commission C2 CAP Conference Working Group.

2. Data from CAP 2018

In our evaluation of the conference, we gathered data from an online survey among participants, as well as by looking at registration data. The online survey was implemented for the last three editions (2011, 2016 and 2018). The response rate of the 2018 edition was 144 out of 430 participants. The reported percentile gender balance was 33% male, 47% female, and 20% NA.

CAP 2018 was the most well attended edition from the CAP Conference series (see Figure 1). The number of participants almost doubled in 2018 compared with the previous most attended edition. While we did not record data on diversity over time, if we look at the participants' country distribution, the 2018 edition went from 25 to 53 countries represented.

We have observed an increased interest in submitting content. Abstract submissions for talks have increased from 149, for the 2016 edition to 283, for the 2018 edition (see Figure 2).

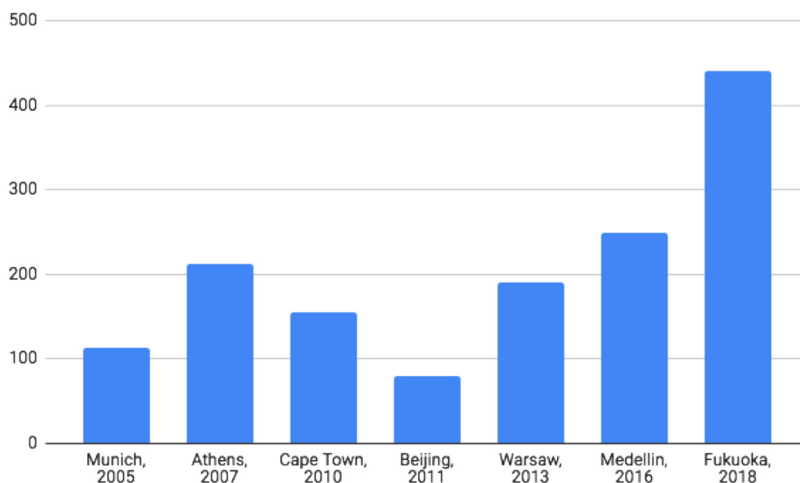


Figure 1. Number of participants per CAP Conference edition. Data gathered by Lucas Ellerbroek.

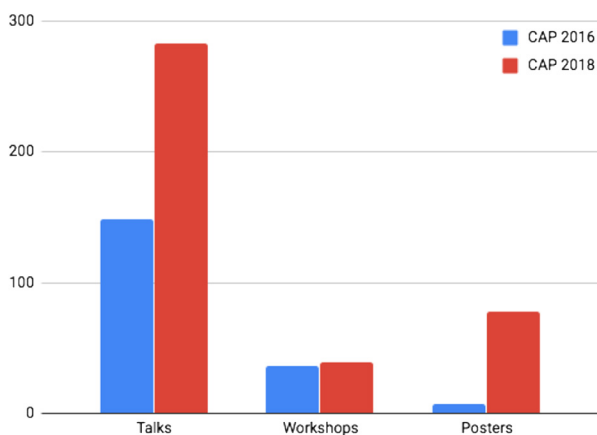


Figure 2. Comparison of content submission between CAP 2016 and CAP 2018. Content is divided by type.

We observed good results on delivering practical content to the community. Over 60% of respondents in the 2018 survey said they left the conference with more than three key learnings (see Figure 3).

3. CAP 2018 Programme

The main theme of the conference was Communicating Astronomy in Today's World: Purpose & Methods, with sub-themes focusing in topics such as: • Current Challenges in Astronomy Communication; • Best Practices in Public Outreach; • Inclusion, Diversity, Equity, and Empathy in Communicating Astronomy; • Astronomy Communication for a Better World; • The Media's Role in Astronomy Communication; • Using Multimedia, Social Media, Immersive Environments, and other Technologies for Public Engagement with Astronomy; • Special Topic: Public Engagement Opportunities during the IAU Centennial Celebration.

We had five invited speakers: • Norio Kaifu, Professor Emeritus of the National Astronomical Observatory of Japan NAOJ, Advisor to the IAU, writer and lecturer, Japan; • Wanda Diaz Merced, Postdoctoral Researcher at the IAU Office of Astronomy

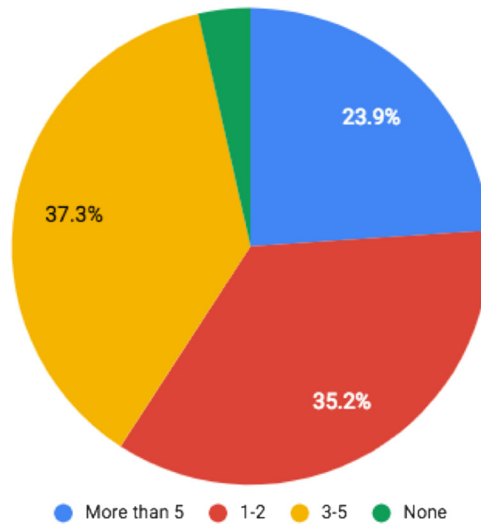


Figure 3. Answers to survey question: “With how many key learnings have you left CAP 2018?”

for Development, Cape Town, South Africa; • Hitoshi Murayama, PhD theoretical physicist, Professor at the University of California, Berkeley, and Director of the Kavli Institute for the Physics and Mathematics of the Universe at the University of Tokyo, Japan; • Dominique Brossard, Professor and Chair in the Department of Life Sciences Communication at the University of Wisconsin-Madison, USA; • Jennifer Ouellette, science writer and author, former science editor of Gizmodo, USA.

4. Challenges in Communicating Astronomy in Today's World—a selection of ideas presented at the conference

(1) Changing media environments that promote narrowcasting, false facts & other toxic behavior

Data from 35 countries show that younger groups are using social media as main sources of news, instead of websites or organizations, TVs or newspapers.

There is increased likelihood of sending around unreliable science news, stories based on a grain of truth, but totally distorted to be more appealing to the public.

The problem does not lie with the social platform itself, but with human psychology. From this perspective, it is important to understand why we share things on social media, some of the reasons being: • We share stories that confirm our beliefs (confirmation bias); • We share stories because they give us hope (even though not realistic); • We share stories because they are funny (not necessarily accurate).

Narrowcasting — the idea that media will make sure that you see things that you are likely to check out based on your previous online behavior— seems to be a technique that will be more and more used. This approach creates the filter bubbles, a major problem for science communication as it is hard to reach the non-converted. In trying to answer the question of who is responsible for identifying false facts and stop their spreading, a few suggestions were made: • Readers could follow a few simple steps to check information; • Press officers could check the media coverage and make sure it is correct; • Scientists could have public engagement as part of their job and they could be trained to do communication; • Journalists could use some of the tools developed for fact checking.

Refer to Brossard (2018) Book of Proceedings Communication Astronomy with the Public Conference 2018 2nd Edition, Japan: NAOJ, “Communicating Science in New Media Environments” for more details on this topic.

(2) Social media noise is increasing and it is hard to stand out. Storytelling can be more persuasive than lists of facts, because stories communicate concepts and values in a format that humans are wired to recognize and remember. Therefore, a few pieces of advice in managing social media include: • Select the right platform and the right amount; • Develop a narrative (a protagonist, a goal and the development); • Adapt your language; • Focus on one message; • Humanize the story; • Evaluate and adjust.

Refer to Heenatigala (2018) Book of Proceedings Communication Astronomy with the Public Conference 2018 2nd Edition, Japan: NAOJ, “Storytelling through Social Media” for more details on this topic.

Other methods to stand out on social media include: • Keeping a balance between astronomical content such as news, discoveries, facts and trending topics, on the one hand, and promotional content, on the other hand; • Using non-related topics to talk about astronomy (sports etc.); • Sharing local astrophotography; • Finding and promoting local heroes; • Using comics.

Refer to Rianza (2018) Book of Proceedings Communication Astronomy with the Public Conference 2018 2nd Edition, Japan: NAOJ, “Astronomy and its Digital Sex appeal: the Art Behind Making People Fall in Love through the Social Networks” for more details on this topic.

(3) Our own communication is sometimes faulty

Concerns were raised that science communication itself has its own problems: • The way we visualize scientific results: Astronomical observations are mainly made of numbers representing the incoming data, which are often converted into images, in order to be better understood. The display process implies a set of rules for encoding the information in a visual form, but this code is not always acknowledged and can lead to misinterpretation. • Misuse of concepts and words: Media reports on exoplanetary findings are often over-hyped, making comparisons with Earth and habitability that current data cannot support. We should be paying more attention to using terms such as “Habitable Zone”, “Earth-like” etc.

Refer to Varano (2018) Book of Proceedings Communication Astronomy with the Public Conference 2018 2nd Edition, Japan: NAOJ, “Far From Reality: Scientific Visualization,” S. Varano and ? “We Have Not Found Earth 2.0: Debunking the Media, for more details on this topic.”

(4) We face global challenges, but we also face local challenges

Language continues to be a barrier in spreading existing good content. Efforts to set up a global Astronomy Translation Network should not underestimate aspects such as: motivating volunteer translators, finding good content and evaluating translations.

Refer to Shibata *et al.* (2018) Book of Proceedings Communication Astronomy with the Public Conference 2018 2nd Edition, Japan: NAOJ, “Astronomy Translation Network: the Challenges of Translating Astronomy Resources Globally” and the same authors’ contribution to the FM 14 proceedings for more details on this topic.

There is a vacuum in science communication in developing countries, due to lack of investment in outreach. This gap is filled with an inflow of information from press offices in wealthier nations. The end result is a lack of awareness and/or interest in science, or alternatively an impression of monopoly in scientific discoveries by developed economies. In Brazil, a project was started to address this problem by: • Ceating a working group acting as liaison between the academic community and the press; • Focusing on the local aspect of astronomical research, highlighting national contribution and Brazilian

scientists; • Collaborating with popular social media users by offering them advice to increase science accuracy.

Refer to Goncalves *et al.* (2018) Book of Proceedings Communication Astronomy with the Public Conference 2018 2nd Edition, Japan: NAOJ, “Astronews: Scientific Journalism in Developing Countries” for more details on this topic.

(5) Astronomy has the opportunity to become more inclusive and bring different communities together.

Numerous examples were given at the conference on how to reach different communities. Among such activities and recommendations are:

Moving beyond the visual by developing hands-on activities to communicate astronomy through other senses: • smelling and tasting different molecules that have been found in the Universe; • touching meteorites and through them learning about physical characteristics of objects; • hearing and feeling vibrations of energy released by astronomical objects at different wavelengths.

Refer to De Leo-Winkler *et al.* (2018) Book of Proceedings Communication Astronomy with the Public Conference 2018 2nd Edition, Japan: NAOJ, “Sensing the Universe: Outreach Activities for Inclusion” for more details on this topic.

- Considering adopting universal design for products and content by making them suitable for people, regardless of age, ability, or status in life.
- Tackling challenging problems. The unfamiliar and overstimulating environment of a planetarium can be turned to a friendly space for visitors with Autism Spectrum Disorder.
- Expanding the reach towards less common communities: people at borders in conflict areas, prisoners, long-term hospitalised people etc.

Refer to Book of Proceedings Communication Astronomy with the Public Conference 2018 2nd Edition, Japan: NAOJ for more details on all of these topics.

5. Final remarks

The book of proceedings for the Communicating Astronomy with the Public Conference 2018 2nd Edition, Japan: NAOJ was made possible by the CAP 2018 LOC team with support from the SOC team. It is available at: <https://www.communicatingastronomy.org/cap2018/> where more information on all of the topics presented here and more can be found.

Further reflections and lessons learned on developing and implementing the CAP 2018 conference can be found in the presentation by L. Canas *et al.* on “Communicating Astronomy with the Public 2018: Efforts on Bringing Together the International Astronomy Communication Community” in the supp. materials for the proceeding of FM 14.