

DIVISION C / WORKING GROUP CC2 SCIENCE COMMUNICATION RESEARCH IN ASTRONOMY

CHAIR BOARD

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TRIENAL REPORT 2016-2018

1. Motivation and creation of the Working Group

The ‘Science Communication Research in Astronomy Working Group (WG) (CC2)’ was created in 2016 under Commission C2, Communicating Astronomy with the Public (CAP). The WG emerged from the need to bring closer together theory and practice in science communication. Science communication has long existed as a field of practice, but the academic field of science communication is rather young. Yet, one of the biggest challenges facing science communication is the polarization between practice and scholarly. Empirical evidence in astronomy communication is scarce, nonetheless necessary to improve public engagement with science. This WG emerged in this context and as an attempt to contribute to this ambitious goal. The IAU membership and its dynamic community in research and outreach represent a unique opportunity to make this a reality. The mission of the WG is then to create a space for reflection and discussion about the needs in astronomy public communication, to produce empirical evidence on astronomy communication, and to serve as a platform to strengthen the boundaries between the fields of science communication research and practice. The deliverable proposed by the WG for its first years was a global study of the outreach practices of the IAU membership, which has been fully accomplished. The report presented here summarizes the activities of the WG between 2016-2018.

2. Board affiliations

Marta Entradas – Marie Curie Fellow at LSE; researcher at ISCTE-IUL (Lisbon University Institute)

Pedro Russo – President of Commission C2 of IAU, Leiden University.

Lars Lindberg Christensen, IAU Press Officer, IAU Commission 55 former President, ESO

Agata Hidehiko, Supervisor of OAO IAU, Director of NAOJ Public Outreach office

3. Goals of the WG

The mission of the WG is to facilitate the link between practice in astronomy communication and scholarly by producing empirical evidence that can be used to inform both practice and research, and work as a space for discussion on science communication between those involved in astronomy communication.

4. Main tasks performed by the group since its creation:

4.1. Survey of the IAU members outreach

We run an international online survey in 2016 with the IAU members (10.450 members at the time of the survey). The survey collected data on the outreach practices of the IAU members around the world, their motivations for communication, and socio-demographic factors. The survey was well received by the community with a significant response of 38% , and the value of the work was acknowledged by many members who sent us messages sharing their live experiences and opinions on public communication. This response rate is high when compared to previous studies of scientists, which have mostly relied in small, convenient samples. Moreover, this is the first time that a global study of a scientific community has been conducted in the science communication and public engagement literature, and the first of the astronomical community.

This study has received significant attention from the academic and practitioner's communities: preliminary results been presented in both academic and practitioners' events, and publications for peer-review are under preparation. We list them below.

4.2. Presentations

(1) *Communicating Astronomy with the Public Conference (CAP2016)*, 16-20 May 2016, Medellin, Colombia. Presentation title: 'Preliminary results of the outreach practices of the international astronomical community'.

(2) *PUS Seminar Series* (Public Understanding of Science), February, 2017, London School of Economics (LSE), London. Title: 'Motivations of astronomers for communicating with the public'.

(3) *NAIS (National Academy for Innovation and Strategy)*, Beijing, China, September 2017. Title: 'How are astronomers communicating around the world'.

(4) *IAU General Assembly*, Vienna, August 2018. Title: *Analysis of types of activities of the IAU members across the globe.*

4.3. Peer-review publications (under preparation)

Paper 1. An analysis of the motivations of astronomers for communicating outreach across different regions of the globe has been conducted and should be submitted soon.

Paper 2. A second paper is under preparation. This will investigate profiles of communication across the globe (types of activities and audiences addressed) using cluster analysis to identify patterns of communication of astronomers working in different contexts and regions of the globe (private versus public, large organisations versus small, NASA, ESA and ESO).

Paper 3. A third paper on media relations is also under preparation. We are analysing how frequently astronomers communicate with the media and what determines that communication across continents.

All three papers will be submitted to peer-review journals, including Nature Astronomy, Public Understanding of Science, and CAP journal. We consider the results of this work of extreme importance to inform astronomy communication and science communication more broadly.

5. Future

The WG had a very successful first couple of years of activity, and plans to propose the continuation of its activities to Division C during the next triennium. We believe the WG serves an important role in understanding and sharing best practices of science communication and contribute to the gap between theory and practice, where there is still much to be done. In the next triennium, we will continue the ongoing activities resulting from the global survey – while in the first two years had a stronger focus on data collection and analysis, the new triennium will be important to sharing and bring to the attention of those working in astronomy communication, astronomers, policy-makers, astronomy organisations, the findings of our robust analysis, through publications, presentations at events and other forms of dissemination. We nevertheless, think that there is room for the WG to grow and be more active in the future. In particular, we would like to increase the diversity of expertise through integrating new members working in the field of astronomy education and from under-represented IAU regions. We have already been contacted by a few IAU members who showed interest in joining the group and contribute to its activities.