



## IAU - Commission C1 Astronomy Education and Development

This Report corresponds to the activities of the period from Sept 2018 to Dec 2019.

### **Com C1 Organizing Committee for 2018–2021 Triennium**

Paulo Sergio Bretones (President)  
Boonrucksar - Soonthornthum (Vice-President)  
Michael T Fitzgerald (Secretary)  
Beatriz Garcia (Past President)  
Rosa Doran  
Kathleen DeGioia Eastwood  
Robert Paul Hollow  
Christopher David Impey  
Nicoletta Lanciano  
Margarita Metaxa

### **Working Groups in Commission C1**

In September 2019, the following Commission C1 Working Groups for this triennium were approved by the Steering Committee of Division C:

- Commission C1 WG Competitions for Secondary School Students:  
Chair: Boonrucksar Soonthornthum

- Commission C1 WG Astronomy Education Research and Methods:  
Co-chairs: Urban Eriksson, Robert Hollow and Akihiko Tomita

- Commission C1 WG Astronomy Education Resources (AstroEDU):  
Chair: Edward Gomez

- Commission C1 WG Network for Astronomy School Education (NASE):  
Co-chairs: Rosa Ros and Beatriz Garcia

Commission C1 is also involved in the following inter-commission WGs:

Inter-Commission B7-C1 WG Achieving Sustainable Development within a  
Quality Lighting Framework

Inter-Commission C1-C3-C4 WG Archaeoastronomy and Astronomy in Culture

Inter-Commission B2-C1-C2 WG Data Driven Astronomy Education and Public  
Outreach (DAEPO)

Inter-Commission C1-F2-F3-H2 WG Education and Training in Astrobiology

Inter-Commission C1-C3-C4 WG Ethnoastronomy and Intangible Astronomical  
Heritage

Previously, a working group that was under Commission C1, Astronomy for Equity and Inclusion, was approved by Division C but also unanimously agreed to put this forward to the IAU Executive Committee for it to become an Executive Committee Working Group.

The current working groups are accessible on the IAU Commission C1 webpage: [https://www.iau.org/science/scientific\\_bodies/commissions/C1/](https://www.iau.org/science/scientific_bodies/commissions/C1/)

Reflecting on the year of 2019, there are some news about projects and activities which we would like to mention here.

## Meetings

### First bi-yearly AstroEDU Meeting in Garching, Germany, September 2019

The first biannual **AstroEDU Meeting: Astronomy Education Conference: Bridging Research & Practice** was held at ESO Supernova, Garching, Munich, Germany from September 16<sup>th</sup> -18<sup>th</sup>, 2019.

The field of astronomy education has grown significantly over the last few decades, with an increasing number of research articles having been published by a growing number of academic and practitioner groups. Despite this, there has been no regular international conference place for astronomy education researchers and practitioners around the world to convene and discuss their work in the field. Hence this meeting is intended to be the first of a regular, bi-yearly, IAU Commission C1 Astronomy Education Conference with an aim to increase the quality, quantity, community and impact of astronomy education research and practice.

This conference brought together astronomers, astronomy education researchers and education practitioners to communicate, discuss and tackle common issues. The three key topics spanned traditional and practical research exploring the purely theoretical to issues encountered attempting to embed research results into practical situations, usually mediated by standards, curriculum and instruction. The conference also provided an opportunity for the community to discuss the results in astronomy education stemming from the IAU Strategic Plan 2010-2020 and discuss the requirements for meeting the next IAU Strategic Plan goals regarding astronomy education.

The Key Topics were: 1. Astronomy Education Research; 2. Astronomy Education Standards, Curriculum and Instruction and 3. Bridging research and practice in Astronomy Education

The programme can be seen at: <http://iau-dc-c1.org/astroedu-conference>

There were 114 Participants from 25 Countries: 25, 44 Talks, 10 Workshops and 50 Posters.

More information are available in:

Vieser W. et al. – Report on the IAU Conference “Astronomy Education — Bridging Research & Practice”, The Messenger, No. 178 – Quarter 4, 2019, p. 63-66, at:

<https://www.eso.org/sci/publications/messenger/archive/no.178-dec19/messenger-no178.pdf>

## **Workshop on Space Sciences Education Research in the Middle East (2019)**

A successful regional astronomy education meeting, the Workshop on Space Sciences Education Research in the Middle East (2019), was held at the Sharjah Academy for Astronomy, Space Sciences and Technology, United Arab Emirates on October the 28<sup>th</sup> and 29<sup>th</sup>, 2019. Based on the idea of Paulo Bretones and the organizers, Professor Hamid Al-Naimiy (Chancellor – University of Sharjah) and Dr. Ilias Fernini (UoS/SAASST), there were 35 participants from UAE, Turkey, Jordan, Brazil and Australia. More information are available in the website at: <http://saasst.myscass.com/AstroEduWorkshop> and at: <https://scass.sharjah.ac.ae/en/news/Pages/scassnd.aspx?mcid=289> A report on Sharjah TV is available at: <https://www.youtube.com/watch?v=ENFCODed0eA&feature=youtu.be>

## **1st IAU-Shaw Workshop – IAU Office of Astronomy for Education (OAE)**

The meeting held from 17 to 19 December, 2019 at the headquarters of the International Astronomical Union (IAU), at the Paris Astrophysics Institute (IAP) when the Office of Astronomy for Education (OAE), which will be at the Haus der Astronomie (HdA), in Heidelberg, Germany was announced and presented.

On the occasion, invited by the organizer Maria Teresa Lago, the IAU General Secretary, it was presented a talk by Paulo Bretones about the “Interactions of the Commission C1 with the OAE”, also considering the suggestions sent by the Com. members. Also, Commission C1 Secretary Michael Fitzgerald presented the talk: “Publications & data bases: What infrastructure is needed for Astronomy Education?”

At the meeting the OAE host, Germany, was announced and much discussion was had around the proposed actions for the new Office. It was a very participative meeting were has been discussed how to optimize the OAE implementation plan and the future initiatives.

There were about 50 IAU colleagues at the meeting. We hope that everything goes well for the new office and that it facilitates the development of Astronomy Education around the world.

More information at: <https://www.iau.org/news/announcements/detail/ann19071/> and <https://www.iau.org/news/pressreleases/detail/iau1911/>

## **Projects**

### **IAU100 Global Project, Astronomy Day in the Schools**

The **IAU100 Global Project, Astronomy Day in the Schools** initiative was an IAU100 Global Project as a part of the agenda and activities of the IAU 100 years (<https://www.iau-100.org/>), with the vision of mobilising the astronomical community to organize activities in schools.

Based on the idea of Paulo Bretones, a Steering Committee has been set up to discuss about the initiative, name of the event and suggestions. After this, the IAU100 Secretariat coordinated the Astronomy Day in Schools project to help the participants about event registration and reports.

This was a special opportunity for students to directly interact and engage with astronomers in their communities, and to learn about the important role of astronomy in our lives.

Any amateur or professional astronomer, scientist or teacher was invited to participate. IAU100 encouraged school visits taking place during or around the week of 10-17 NOVEMBER 2019. During this week, the 10th of November marked the World Science Day for Peace and Development and a Mercury transit also took place on the 11th of November, which offered an exciting outreach opportunity for the visiting astronomers.

There were over 500 events and activities in 70 countries worldwide. This was the inaugural event in 2019. In future years, the date is still to be decided, but it may be the date of an equinox. It is an important date, even historically as many cultures use this date to begin the year and the equinox makes catering to both hemispheres easier to synchronize activities.

More information can be seen at: [www.iau-100.org/astro-day-schools](http://www.iau-100.org/astro-day-schools)  
And photos related to the event are available here:  
<https://www.flickr.com/photos/161571186@N03/albums/72157711979885508/with/49>

### **“Big Ideas in Astronomy”: A Proposed Definition of Astronomy Literacy.**

What does it mean for a citizen to be “literate” in astronomy? Those members of the International Astronomical Union (IAU) who are active in public outreach have practical experience of the kinds of astronomical knowledge commonly held by the general public. Until recently, however, there had not been a systematic evaluation and a clear definition of what astronomical literacy means. In May 2019, a “Big Ideas in Astronomy: A Proposed Definition of Astronomy Literacy” booklet was released with the aim of clarifying these ideas. It is intended for use by the astronomy education and outreach community, and within a process of community consultation. The booklet is the culmination of years of debate and discussion over the essential things that an astronomically literate person should know.

For more detailed information, please go to the official IAU announcement page here: <https://iau.org/news/announcements/detail/ann19029/>

### **Working Groups**

The Commission C1 working groups, since the approval, has been working very well and have connected with their members.

Many activities have been reported and the reports of each WG can be seen at: [https://www.iau.org/science/scientific\\_bodies/commissions/C1/](https://www.iau.org/science/scientific_bodies/commissions/C1/)

We are very happy to share with you such news about the meetings and projects from 2019 and we hope to promote more in 2020.

Paulo S. Bretones  
IAU Commission C1 President

Michael Fitzgerald  
IAU Commission C1 Secretary