

## IAF SPACE EDUCATION AND OUTREACH COMMITTEE (SEOC)

### Introduction

The IAF Space Education and Outreach Committee (SEOC) promotes the development and delivery of quality learning and outreach opportunities for students, educators, and members of the IAF, and supports IAF activities focused on students and educators.

### Highlights

Two major trends were highlighted by our members this year:

- Open access to data and software as well as novel technologies are changing how education and outreach is conducted. For instance, a lot of outreach now happens through social media and content creation. In addition, new AI and mixed-reality technologies are impacting the way we gain knowledge and interact with others. Concerns for privacy, intellectual property and ethics are folded into this evolution, and these new technologies may change the way future space professionals work in the sector or preserve individual contributions to research and development.
- There is now globally an increased focus on more inclusive approaches to education and outreach to represent and engage with diverse perspectives and underrepresented communities.

These trends drove SEOC to revise its Education and Outreach Symposium, and informed decisions made in other areas such as the Next Generation Plenary.

### Future Outlook

SEOC is currently preparing for the 75<sup>th</sup> IAC, which will be held in Milan in 2024. The Call for Papers for both our Space Education and Outreach Symposium and our Student Competition Symposium are now open. Our Space Education and Outreach Symposium will

feature a new session focused on diverse perspectives in education.

SEOC also plans to continue its Honours and Awards Programme alongside supporting the Next Generation Plenary, the Launchpad Mentorship, the Abstract Mentorship, Cross Cultural Workshop and other next generation focused programs at the IAF. SEOC Outreach is currently planning several outreach and public engagement activities both at IAC 2024 and outside of that event.

A particular area where we still have a long way to go is teacher engagement. In addition to the Educator Development Workshop organized by the International Student Education Board (ISEB), SEOC plans to explore new ways to accommodate involvement of teachers at IAC 2024. Bringing in teachers as well as their students will assist in triggering support and interest in space and find better ways to transfer knowledge to the next generation.

### Committee activities

Throughout 2023, SEOC supported various initiatives, such as the IAF Abstract Mentor Programme and IAF Launchpad Mentorship Programme, with SEOC members acting as mentors in both programmes.

SEOC worked throughout 2023 to organize two symposia at the 74<sup>th</sup> International Astronautical Congress (IAC):

- The Space Education and Outreach Symposium (E1) showcased over 110 papers (selected from over 210 submissions) in 12 sessions around various topics in space education and outreach, workforce development and culture;
- The 51<sup>st</sup> Student Competition Symposium (E2) showcased 42 papers (selected from over 100 submissions) in 5 sessions, one of which was broadcast online as part of the Global Technical Symposium (GTS).

The committee will be seeking to increase the number of Keynote speakers in these Symposia and has restructured some sessions for 2024 to align better with changes in the education and outreach landscape.

SEOC Honours and Awards continued its great work this year, by awarding the following:

- The Frank J. Malina Astronautics Medal was awarded to Klaus Schilling, Professor and Chair of Robotics and Telematics, University Wuerzburg. This award recognizes an educator who has demonstrated excellence in taking the fullest advantage of the resources available to him/her to promote the student of astronautics and related space sciences. Professor Schilling was also a keynote speaker at the SEOC E1 Symposium.
- The Luigi G. Napolitano Award was awarded to Sona Guliyeva from Azerbaijan based on the paper “Advancing Space Education for Sustainable Development in Azerbaijan: Importance of Geoinformation Technologies”. This award is presented annually to a young scientist (below 30 years of age) who contributed significantly to the advancement of aerospace sciences and presents a paper on this contribution at the IAC.
- The IAF Student Awards recognize the best papers presented by students at the IAC:
  - » The Undergraduate Category 3AF Gold Award was awarded to **Vint Lee**.
  - » The Undergraduate Category Hermann Oberth Silver – IFR was awarded to **Guillaume Hueber** and **Jérémie Huser**.
  - » The Graduate Category Hermann Oberth Gold – IFR and the British Interplanetary Society Prize for Best Technical Paper were awarded to **Miguel De Almeida Rebelo**
  - » The Graduate Category 3AF Silver Award was awarded to **Afnan Malik**
  - » The Hans von Muldau Team Award for the Best Team Project was awarded to The **Student Project FARGO - A Ferrofluid Experiment on the ISS**.

- SEOC members contributed to the selection of the IAF Emerging Space Leaders (ESL) Grants and Young Space Leaders (YSL) Award programme as well. We are happy to see Bethany Downer of SEOC among the awardees of the YSL this year.

SEOC members (alongside the IAF WD-YPP and other committees) also supported the Next Generation Plenary (NGP) Programme as steering committee members. The NGP this year organized the Next Generation Plenary ‘The Open-source Revolution and Space Data Accessibility’, while also holding an additional panel titled ‘The 21st century’s Moonshot: Critical Technologies, Policies, and Business Models to thrive on the Moon’. Both sessions highlighted perspectives of the Next Generation as panelists were under the age of 35 and selected through a competitive process.

SEOC members also organized two special sessions at IAC 2023:

- Developing an Ecosystem to Prepare the Next Generation of Space-Oriented Citizens
- Emerging Technologies on Natural Disaster Detection: Turkey Syria Earthquake and Remote Sensing Applications

The SEOC Outreach team relaunched its activities this year, holding several outreach activities at different countries in the region prior to IAC. SEOC members also contributed to the activities of the International Space Education Board, which held several events for students and educators.

SEOC’s membership has been on the rise, reaching 66 members, 3 friends and 3 experts in 2023. The committee has explored new ways to engage incoming and prospective members to create more impact within the space community. This should result in new programs which will be unveiled in future years. We have also identified links and liaisons with different IAF Committees for better coordination of activities.



*SEOC members at our two meetings at IAC 2023.*