

Report on the work of Commission C1 WG
Astronomy Competitions for Secondary School Students
from 09/2021 to 03/2022

The IAU EC renewed the WG *Astronomy Competitions for Secondary School Students* in September 2021. Since that time, the WG has prepared a feedback survey for participants of international competitions (olympiads) and has been preparing an updated version of the survey of astronomical competitions, which we expect to disseminate through the NAEC and NOC network shortly. Also discussed was what to include in a set of guidelines for astronomical competition participants and organisers.

National and regional competitions and information

In addition to the survey, WG members have as previously been active both in gathering information about local competitions and interested persons and in organising such events. Some examples (WG member sources in parentheses) include:

- The 14th IOAA was successfully hosted by Colombia in November 2021 a hybrid format, with the organisers and executive committee present in Colombia and teams and team leaders participating remotely, using Zoom meetings and the OlyExam olympiad software. The competition was a success with 47 countries participating, although some lessons were learned for future hybrid events regarding the (un)reliability of remote/computerised solutions (overloading of Zoom and the exam platform, errors in entering data). Nonetheless such events are possible even at the scale of the Olympiad. The event was also used for outreach to teachers and pupils to encourage them to teach and learn science (including astronomy) and explain why STEM education is useful and what are the benefits of STEM competitions such as olympiads. This included 1-hour live panel discussion with scientists and educators participating as organisers of the IOAA broadcast online including audience questions. [G. Stachowski]
- Poland was able to hold all three rounds of the national olympiad in person thanks to relaxed Covid restrictions. The event was also used to publicise astronomy education and encourage pupils to study astronomy. [G. Stachowski]
- Slovenia held its annual national astronomy competition for primary and secondary schools, including for the first time an additional competition for 6th grade primary school students (age 11-12). Astronomical educational content for teachers and pupils was published on the DMFA Slovenia (national Mathematical, Physical and Astronomical Society) website and Youtube channel. [A. Gustin]

- Lithuania held its National Astronomy Olympiad and an astronomy quiz "Under Starry Skies" for middle school and high school students virtually. Virtual lectures devoted to new discoveries in astronomy for teachers and high school students were delivered by astronomers of Vilnius University. [J. Sudzius]
- Hungary organised 3 rounds of national astronomical olympiad competition and a miniolympiad for 5 countries. [T. Hegedus]
- Indonesia held its astronomy olympiad virtually and hosted the IAU NASE course for teachers. There was also a national research competition for high school students which includes an astronomy component. [H. Malasan]

Continuing impact of COVID-19

The COVID-19 pandemic continued to impact activities relating to astronomy competitions and events, with many events taking place only virtually. However in some countries where vaccination rates are high the restrictions were gradually being eased and this trend is likely to continue. At this time the organisers of the 15th IOAA expect to be able to host an in-person even during the summer.

Impact of Russian invasion of Ukraine

The 15th IOAA was due to be held in Kyiv, Ukraine in August 2022. This has been postponed (new date TBD) at the request of the organisers. Georgia has offered to host the event instead, although it remains to be seen how many countries will be willing and able to send their teams. The event is being planned as a hybrid to allow both in-person and virtual teams.

Conclusion

The WG continues process of collecting and collating data on existing astronomy competitions and related programmes and their impact on students and teachers. We see a continuation of the trend of greater availability of online resources aimed at teachers and students and virtual participation in events, even with easing restrictions. This has potential benefits for accessibility and lower costs, however can exclude students without computer/internet resources.

– collated by G. Stachowski from contributions by WG members.