

Ukrainian National Astronomical Olympiads

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Meeting: Recovery plan for Ukrainian astronomy

Leiden, 9-13.06.2025

Olympiad movement

- Most astronomical centres (Observatories, Universities, Physics and Math lyceums) in Ukraine are involved in astronomy competitions and Olympiads
- We have a powerful community of judges and coaches which has been formed since 2007
- Our Olympiads are the part of Ukraine's Olympiad movement
- The main objectives of the Olympiad movement are:

To spark young people's interest in exploring the mysteries of the Universe

To guide them toward a future way in astronomy

To raise public awareness of astronomy and space science

Olympiads in Ukraine

Olympiad on Astronomy for high school students

<http://usao.org.ua/>

Junior Academy of Sciences of Ukraine

Stages:

- District level
- Regional level
- National level

Student Olympiad in Astronomy and Astrophysics

<https://space.knu.ua/vseukrayinska-olimpiada-z-as/>

Classical Universities

Stages:

- Internet round
- Regional level
- National level

The jury consists of a team of professional astronomers and astronomy teachers.

Winners of national competitions go on to international events (IOAA and IOAA jr)

Key Issue: Astronomy Olympiads reach only a limited number of students across the country.

AstroSandbox - online educational resources

1.The whole archive of problems and materials of

- Ukrainian National Olympiads
- International Olympiads
- some Olympiads of other countries
- “AstroBattles” contest



2.Online course of olympiad astronomy

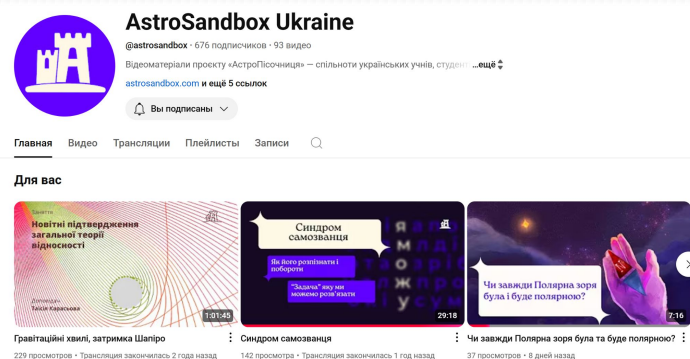
- 74 webinars with homework problems

Website:

<https://www.astrosandbox.com/mainenglish>

3.Youtube channel

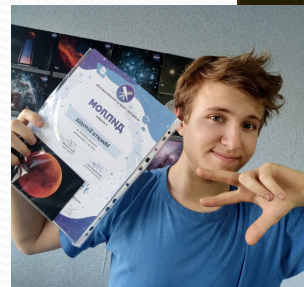
- webinars,
- pre-olympiad trainings
- Blitz-videos with explanations of astronomical effects
- Video-guides of problem solutions



Other astronomical events, competitions

Hosted by AstroSandbox (ASB)

- **Astronomy Battles** (a team competition of solving and presenting astronomy problems) were organised online in 2020-2023 and in person in 2024 (Kyiv)
- **Invited astronomical lectures** in different Ukrainian cities and towns



History



*First IOAA
and start of the
national Olympiad
on Astronomy
and Astrophysics*

2007



Start of the
national
astronomy
olympiad for high
school students

2011



First IOAA-Jr
and Ukrainian
team there

2022

Junior Academy
of Science
becomes the
organizer of
national
olympiads

2023

time

Awards at IOAA

IOAA 2007-2024:

- 4 gold medals
- 14 silver medals
- 37 bronze medals

IOAA-junior 2022-2024:

- 4 silver medals
- 9 bronze medals



Olympiads in 2022

- The IOAA should have been held in Ukraine!
But it was moved to Georgia
- National Olympiads were not completed. And most national competitions were cancelled
- Most active participants took part in the special competition for the IOAA-team formation in online format (June 2022)
- Extremely complex logistics to IOAA (students and leaders travelled from different countries)
- Travel expenses covered by supporters and sympathisers and by assistance of the Georgian organizers

HOWEVER!!!

- Ukraine was presented at the IOAA-2022 in Kutaisi, Georgia
- Ukraine was presented at the first IOAA-Jr in Câmpulung Moldovenesc, Suceava, Romania



IOAA-2022, Kutaisi, Georgia



Winners:



Diana Zazubyk



Severyn Shykula



Andrii Nykyforchyn



Iryna Hontsovska

The first IOAA-Jr (2022), Suceava, Romania



Winners:

Silver medals:



Andrii Zahika



Illia Garbzhii -

Romanchenko

Honorable mentions:



Dmytro Mintenko



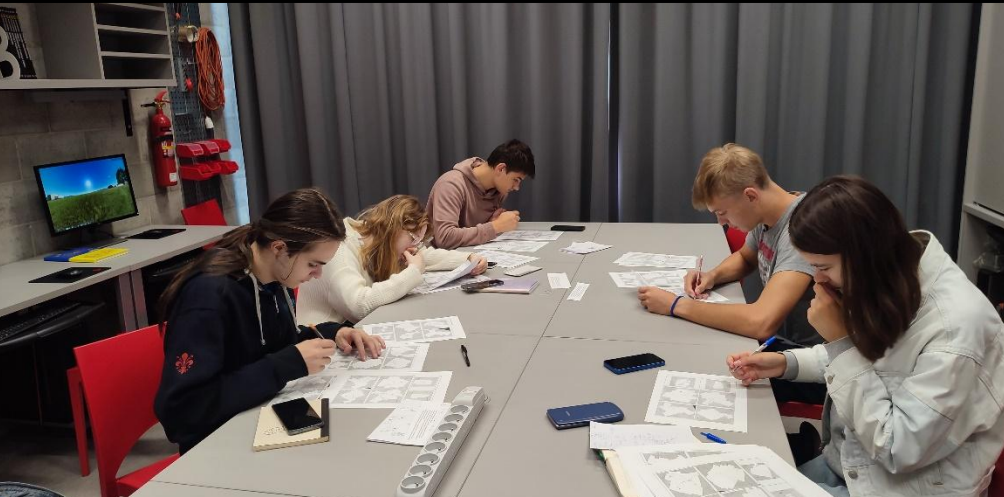
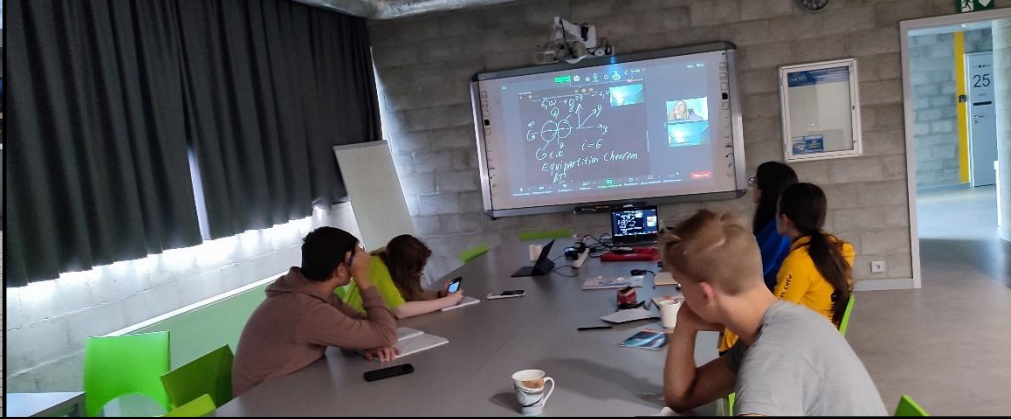
Evgen Buchkovskii



Vladyslav Andruhiv



Preparation to IOAA-2023 (Niepołomice, Poland)



Impact of the war

- Inability of schoolchildren from occupied territories and abroad to participate in olympiads
- Inability to hold the Olympiad in most places in Ukraine because of the dangers of the war
- Decrease in the number of schoolchildren in Ukraine and danger of participating in mass events resulting in a decrease in the number of participants in the Olympiads



Looking ahead

National level

- Expanding number of participants and accessibility of all kinds of Olympiad
- Summer school on astronomy (AstroSandbox plans to organise it in Kyiv this year)
- Astronomy tournaments (camping, night observations, etc.)

International level

- Preparation of English versions of event materials (competitions, tournaments, webinars)
- International events with European countries (competitions, training, summer camps/schools etc.)
- Tournament/school with the Netherlands team?
(Similar to AstroBattle with German team organized by ASB in 2022)

We are grateful to our partners and sponsors:

- Ukrainian Astronomical Association
- Citadel Securities company
- Ukraine Math & Science Achievement Fund
- Razom for Ukraine
- Noosphere. Technology Knowledge Humanity
- Ukrainian Physics and Mathematics Lyceum
- AstroSandbox project has Emergent Ventures grant from Mercatus Center of George Mason University

Thank you for attention!



Other astronomical events, competitions

International level

- International Astronomy and Astrophysics Competition (<https://iaac.space/en/>)

National level

- Local and online astronomical clubs
- Sidewalk astronomy
- Free online course 'Astronomy Express' (2025)
- First Multidisciplinary Online Olympiad from "Kvanta" (2025)
- Science Kids lectorium (<https://inscience.io/en/sciencekids/>)
- STEM olympiad by Junior Academy of Science of Ukraine



Training and competition

- High school teachers and trainers
- Universities professors
- Astronomical Observatories (in Universities and NAS Ukraine)
- Small academy of sciences



IOAA-2023, Chorzów, Poland



Winners:



Diana Zazubyk



Illia Garbzhii -
Romanchenko



Eduard Palant



Andrii Zahika

IOAA-Jr (2023), Volos, Greece



Winners:



Dmytro Hiley



Vladyslav Andruhiv



Yuriy Zaliznyi



Polina Kondratenko



Andriy Korosko



Bohdan Ohorodnyk