

The Morning Star

No #02
13.08.2023



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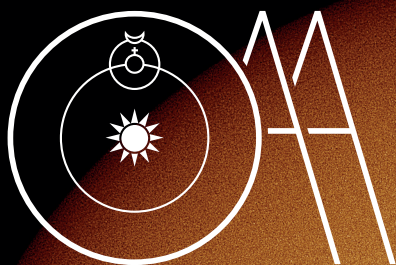
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Poland 2023



→ Leaders in the Silesian Planetarium

→ Group Competition

→ Johannes Hevelius

Foto: Kamil Jurczyszyn

**Schedule of 16th International Olympiad
on Astronomy and Astrophysics, Poland**

Day 4 → 13th August 2023 Sunday

Students

07.00—08.00	Breakfast
08.00	Meeting point in the parking lot
08.15—09.15	Transfer to the ICC
09.30—15.00	Theory round
15.00—16.00	Transfer to the hotel
16.00—17.30	Lunch
17.30—20.00	Free time, telescopes
19.30—20.30	Dinner

Team Leaders

07.00—09.30	Breakfast
09.30—13.30	IBM. Observation and planetarium round
13.30—14.30	Lunch
14.30—19.30	IBM. Data analysis round
20.00—21.30	Dinner
21.30	Translations and printing

The weather forecast

Sunday, Aug 13th

Wind

S

10-15 [25-45] km/h

Lowest temperature (morning)

12-16C / 54-59F

Highest temperature (afternoon)

27-29C / 80,5-85F

Sunrise **05:29**

Sunset **20:07**



After the Opening Ceremony



"It is a great honor to be the host of such a fantastic event as the International Olympiad on Astronomy and Astrophysics among such a strong international cast of representatives from all over the globe.

But let's also remember that we meet in a special place, I would say amazing in terms of its diversity - the Silesian Voivodeship, a region that is constantly changing, evolving and, what is important, can boast of the Silesian Planetarium, which is one of the most modern facilities of this type in the world.

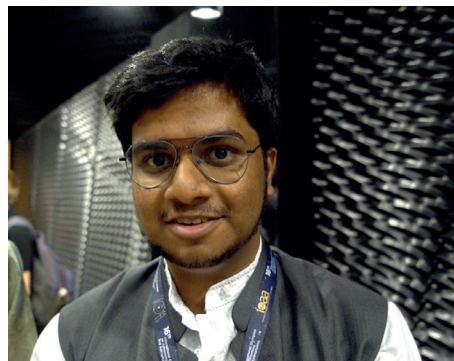
Today, it is the arena of the scientific struggle of the contestants, which falls on the 550th anniversary of the birth of Nicolaus Copernicus - an outstanding astronomer whose discoveries became a milestone of knowledge about the universe. He was an exceptional man, today we would say - breaking cognitive patterns. And this is what I wish the participants of the Olympiad - that they break the patterns by striving to deepen their knowledge.

Perhaps it is here that you will stand at the gates of your future, great scientific career. Make your dreams come true and literally follow the stars. The highest place on the podium will go to one team, but in fact the winners are all participants."

Marshal of the Silesian Voivodeship Jakub Chelstowski



IOANNIS PANAGIOTOU (CYPRUS)
"I wish students all the best"



MD SAHIL AKHTAR (INDIA)
„The Opening was phenomenal!"



SEAN KEN GALANZA (PHILIPPINES)
"We're very excited!"

Team Leaders in the Planetarium.

Shortly after the opening ceremony of the 16th International Olympiad on Astronomy and Astrophysics, team leaders visited the Planetarium - Silesian Science Park to familiarize themselves with the technical capabilities of the Planetarium's projection equipment, where some of the competitions will soon be held. During a short live show, they could see the images of sky and celestial bodies presented by the Chiron Goto III optical projector and the 8K digital projector system.



The first competition

On Saturday afternoon participants of 16th IOAA met at the International Congress Centre in Katowice for the group competition. Teams had to be creative: in one task they had to use astrolabe. During other they had to decode message from space – response to message send by Arecibo telescope in 1974.



Jan Heweliusz (1611-1687)

Johannes Hevelius, known in Poland as Jan Heweliusz, was one of the most outstanding scholars in 17th century Europe.

He was born in Gdańsk in a family of brewers and merchants. Before entering university, Hevelius received education from professors at the academic gymnasium located in his hometown.

In 1630, he went to Holland, to the city of Leiden, to study law and economics. These majors were supposed to help him run the family business in Gdańsk. However, these disciplines did not particularly interest him, and after about a year, he resigned. Since the local university did not teach astronomy at a high level, Johannes decided to go on a scientific trip around Europe. After staying in London for some time, he moved to France to meet many famous scientists. He also wanted to go to Italy, but his father's illness forced him to return home. Keeping with family traditions, Johannes worked in a brewery and became a member of the brewers' guild. He also administered St. Catherine's Church, became a juror, served as a councilor and inspector dealing with matters of several guilds. He also held the office of the judge of the Old Town.

It took some time before he became seriously interested in astronomy. Discovering the secrets of the sky required instruments and unique rooms adapted for this purpose. The family business helped Hevelius. The funds needed for the investment came from the production of beer in two breweries.

He founded the first astronomical observatory in 1640 - it was located in the attic of his tenement house. In equipping it, Hevelius' glassworking and mechanic skills he had acquired earlier came in handy. Johannes himself made telescopes, for which he precisely ground the lenses. In addition, he constructed a sextant and an octant - instruments measuring the height of celestial bodies above the horizon and a quadrant determining the position of stars. In 1650, he completed the construction of a new 140 sq.m. observatory. It was then the most modern object of its kind in the world. Unfortunately, as a result of an unfortunate accident, a fire broke out in the observatory and burnt the library, the printing shop, and the workshop where Johannes created illustrations for his books. Hevelius, who was 68 years old at that time, had a strong supporter and immediately began the reconstruction works. It was possible thanks to the Polish King John III Sobieski, who exempted his breweries from tax and offered him an annual salary.



Johannes illustrated all of his works himself, for drawing was one of his many talents. He wrote several books, but Selenography that described the Moon brought him the greatest fame and recognition. At that time, it was the best and most detailed scientific study of our satellite. For the next 100 years, no one managed to do it more precisely. Three maps drawn by Hevelius accompanied the description of the Moon's surface. Johannes depicted the movement of the Moon and its phases. Some observations were quite surprising - the Moon "wobbles" a little (this phenomenon was explained in detail only by Isaac Newton). The book also included information about the moons of Jupiter and conclusions from observations of sunspots and planets. There were more than 40 drawings, also made by Hevelius.

Johannes also attempted to describe comets as he discovered several of them. He described 400 of them in another work entitled Cometography. Four hundred six drawings illustrated the history of their appearance. At that time, he was the first to believe that comets move in an arc. Other astronomers claimed that they move in straight lines. It turned out that it was Hevelius who was right. His subsequent great work was the two-volume Celestial Machina. He described the history of astronomy and summarized 20 thousand of his observations of the sky. Hevelius did not manage to publish his most excellent work before his death. It was done only by his second wife, Elizabetha. It is the Annunciation of Astronomy, a large atlas describing over 1500 stars.

dr Tomasz Rożek

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