No #04
15.08.2023

The Morning Star

Województwo Śląskie

Official Partners

Ministerstwo Edukacji i Nauki · Planetarium Śląski Park Nauki · Fundacja empiria i wiedza · Europejskie Miasto Nauki Katowice 2024 · Górnośląsko-Zagłębiowska Metropolia · Akademia Kopernikańska

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

Day 6 → 15th August 2023 Tuesday

Students

07.30—08.30	Breakfast
08.30	Meeting point in the parking lot
08.45—09.45	Transfer to the ICC
10.00—13.00	Data analysis round
13.15—14.15	Transfer to the hotel
14.30—16.00	Lunch
16.00—19.00	Free time and group activities at the hotel
19.00—20.30	Dinner

Team Leaders

07.30—08.45	Breakfast
08.45	Meeting point in the parking lot
09.00—10.30	Transfer to Guido Coal Mine
10.30—15.00	Sightseeing of Guido Mine (lunch during the trip)
15.00—15.30	Transfer to the Planetarium
15.30—17.30	Guided tours in groups
17.30—19.00	Country's sky presentation
19.00—20.30	Transfer to the hotel
21.00—22.00	Dinner

The Weather Forecast

Tuesday, August 15th 2023

Wind
S
5 km/h

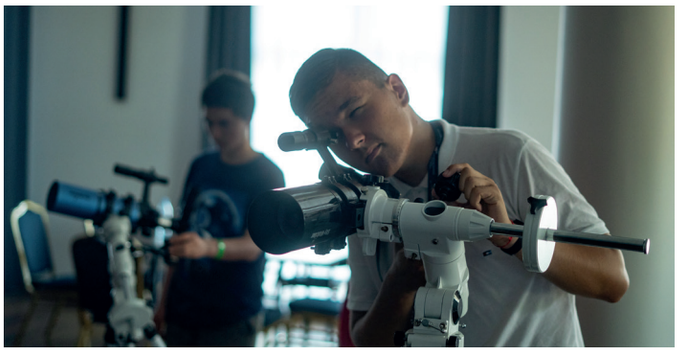
Lowest temperature (morning)
16-19C / 60,8-66,2F

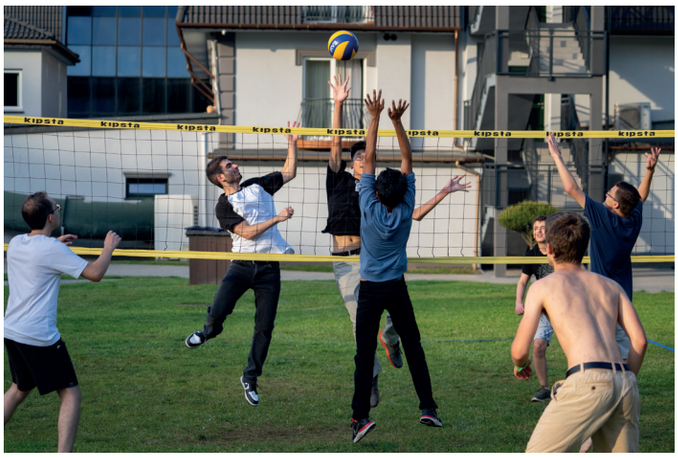
Highest temperature (afternoon)
30-32C / 86-89,6F

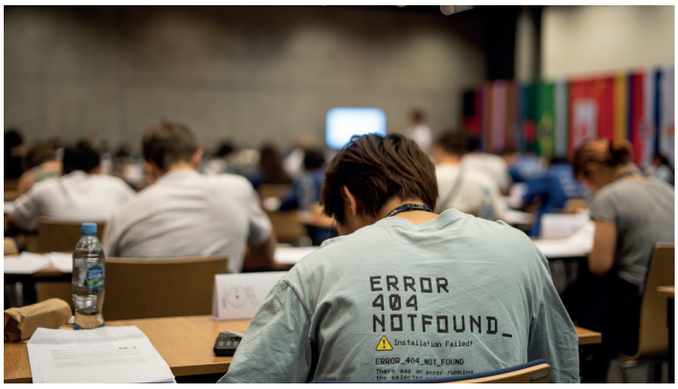
Sunrise **05:32**
Sunset **20:04**

Students

On Sunday, after a rather exhausting, five-hour round of theoretical tasks, the participants of the 16th International Olympiad on Astronomy and Astrophysics had some time for themselves. It was also a great opportunity for the teams from different countries to get to know each other better. Volleyball, tennis, swimming pool or jacuzzi perfectly relax even the most burning up heads. None of these students expects the observation round to take place in just a few hours in what unusual conditions...



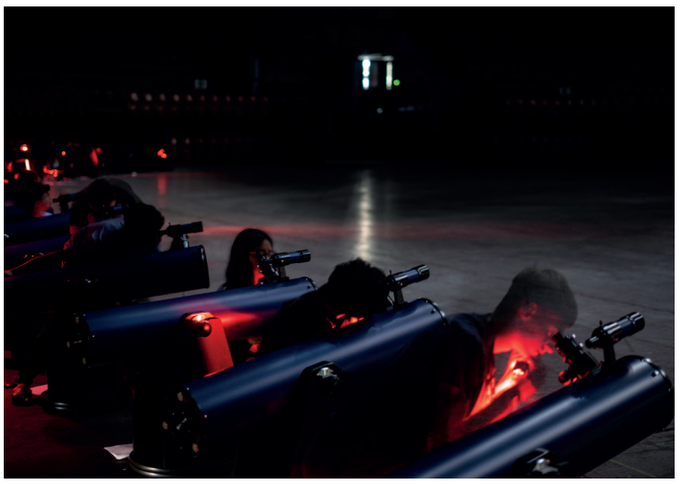


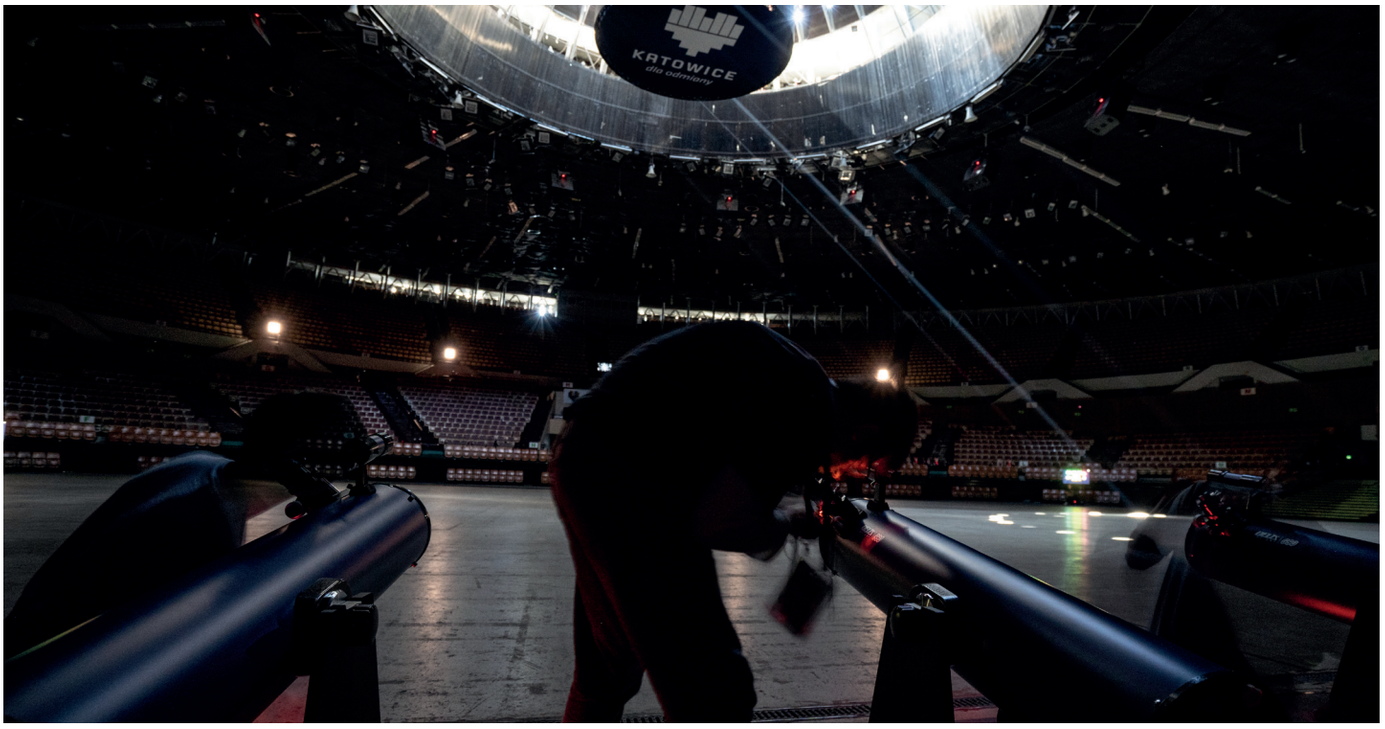


Observation Round

Surprise!

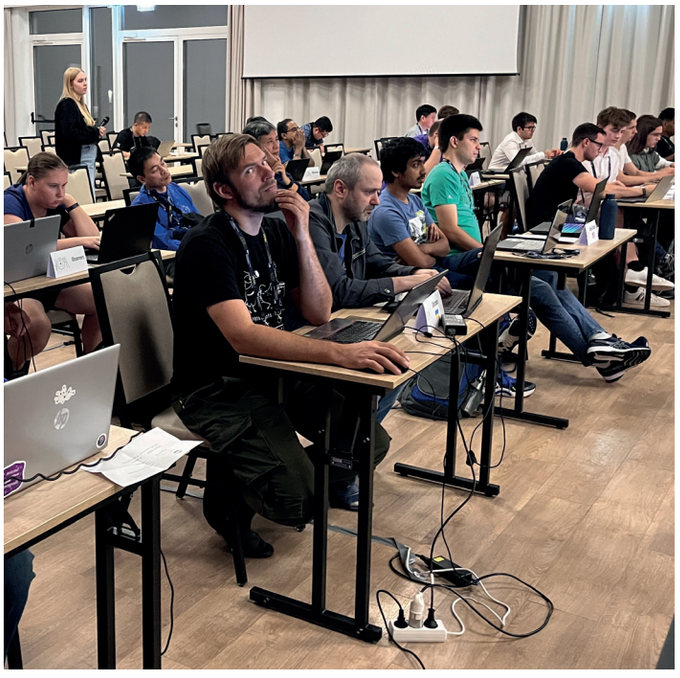
Many students were wondering how Monday's observation round would be organized. For most, solar observation would be the obvious choice – after all, what else can you look at through a astronomical instrument during the day? Imagine the surprise of the contestants when, after leaving the main hall in the International Congress Center, they were led to "Spodek" in Katowice, where telescopes and ... stars were waiting for them, which, although artificial, perfectly complemented this round of competition.



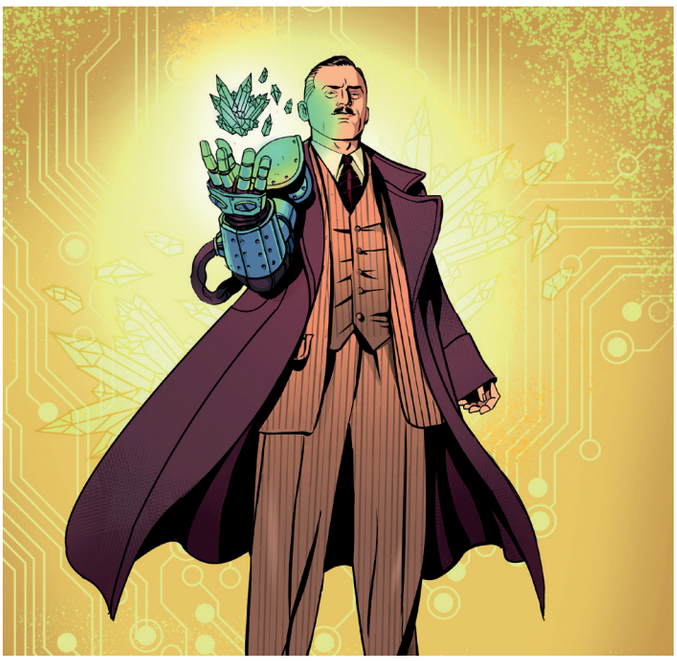


Team Leaders

For students, a trip to the hotel in Zawiercie means rest. In the case of Team Leaders it is different - they work almost all the time. They discuss individual tasks, translate them and make sure that the Olympiad runs smoothly.



Jan Czochralski (1885–1953)



There would be no computers or the Internet without him. There would be no Facebook and everything that we love to use.

Jan Czochralski was born near Bydgoszcz. At that time, this part of Poland was ruled by Prussia. He was one of eight children born to a family of carpenters. Jan showed interest in chemistry since childhood. When he was19 years old, he went to Berlin and started working in the German concern AEG's research center (as we would call this today). Only six years after arriving in Berlin, Jan defended his engineering thesis at the chemical faculty of the local polytechnic.

In 1916, at the age of 31, he made the most profound discovery of his life. Or rather, the discovery of the century. An anecdote says he was so absent-minded that he dipped this fountain pen nib in a crucible with melted tin instead of an ink bottle while taking notes. In those days, people did not write with pens we know today. The fountain pens had to be dipped in an ink bottle now and then. However, the bottle in which Jan inserted his nib contained molten metal. As soon as he realized this, he took out the nib along with a thin metal rod clinging onto it.

What is interesting about this? Since that memorable mistake, Czochralski began to measure the solidification (crystallization) rate of metals and their alloys. The method involving the formation of metal crystals by pulling (which is how Czochralski did it by absentmindedness) was fascinating. The crystal formed in this way had a very ordered structure - the atoms were arranged in a strictly defined manner. Not only was this manner determined, but it was also regular. What at the beginning was only a curiosity, which metallurgists were interested in, turned out to be the foundation of an entirely new field, which became electronics. Thin layers of crystalline silicon are essential in electronics. However, the atoms in this material must be very ordered. There is no better method to create perfect crystals of silicon than the one developed by Czochralski.

At less than 40 years of age, Jan developed an alloy that was ideal for constructing railroad sliding bearings.

In 1918, Poland regained its independence. A few years later, thanks to the initiative and authority of President Ignacy Moscicki (who was himself a well-known and respected chemist), the scientists and engineers scattered all over the world by the winds of history began to return to Poland. Jan Czochralski also returned to Warsaw, precisely to the Warsaw University of Technology. First, he took the position of a contract professor, and later, he accepted the title of full-time professor.

Unfortunately, in 1939 the war broke out.

Czochralski knew the most important German scientists. Despite the warfare, he continued the research at the Warsaw University of Technology. The Germans were interested in it because Czochralski's works were helpful in the war effort. On the other hand, precisely because the research was so valuable to the German army, Czochralski managed to employ many people (thus saving their lives).

After the war, Czochralski found himself in prison suspected of treason. For the communists, Czochralski was a German agent. Although he survived the war, he had to leave Warsaw because he could not find a job there. He returned to his hometown Kcynia, near Bydgoszcz, and founded a small family company Bion. He produced shoe polish, hairdressing cosmetics, and salt used for curing meat.

His company grew in strength and earned very well. Czochralski's enemies could not leave this without reaction. In 1953, during a fierce search of his home and company premises, the owner and world-famous scientist suffered a heart attack. Shortly after, he died on April 22, 1953.

The Senate of the Warsaw University of Technology rehabilitated Czochralski only in 2011 - 66 years after they deprived him of his degrees and disgracefully dismissed him.

dr Tomasz Rożek