DragoNews

6th European Physics Olympiad | Ljubljana, Slovenia | 20–24 May 2022

6th EuPhO 22 LJUBLJANA • SLOVENIA

dMFA

24th May 2022, Tuesday

Weather forecast Ljubljana 25 °C

Putting down the pens

The students finished their theoretical exams on 22nd May. The theory questions were about thermal oscillations, the period of motion for a floating cylinder, and sub-questions on a dipole in a magnetic field. After the exam, the overwhelmed students discussed the questions with their team leaders. Marko Tsengov from Estonia said, "The theory exam was actually very interesting. But I needed more time and efforts for the entire exam." The opinions about the theory exam ranged differently among students. Lorenss Martinsons and Lukass Roberts Kellijs from Latvia shared, "The theory problems were actually elegant! Not as challenging as last year, though. We made quite a few mistakes and realised that later. The experiment was easier than the theory; of course, if you don't include the third experiment problem!" they chuckled. Tolga Avkan from Turkey explained, "Well, when I looked at the theory problems, I thought they were really easy. But then, when I saw the marking scheme, I realised that I will not score as much as I expected." We wish the students all the very best for their results.

The hardest part is the moderation!

The basement room of the Hotel M was bustling with activity since morning. The students were getting their results moderated from the graders and academic committee. Everyone had lined up in the lobby, anxiously waiting for their turn. The moderation for Team Romania had to be done the earliest, as they were leaving early. The students were seen engrossed in discussions with the academic committee, nibbling on plates of cherries. Most students were happy with their marks and said that they received more marks than they'd previously expected. Dr. Simon Čopar from the academic committee said, "The hardest part really is moderation! From our side, we are trying the most to make the marking as fair as possible. But the challenge here is that we are grading the process of how minds work in physics. Every student may not have the same solution. There is more than one way to solve a problem, and some students have really done things in different and surprising ways, which we can still term as creative solutions. Marking that can be quite challenging." The moderators and organisers were trying to ensure that the entire process went as smooth as possible. Patience, everyone…. The results will be out very soon!

"Girls, chase till your dreams are achieved!"

DragoNews's Editor-in-Chief has a bit of advice

Asira Lele is a very familiar face at Olympiads. Her journey started as a student guide at the International Junior Science Olympiad 2013 and continued at the IPhO 2015. She became a freelance writer at the Olympiads 2016 onwards, and today is the Editor-in-Chief of several newsletters. Back home in India, Asira works professionally as a technical writer for Avaya, a US-based telecom company. She is also an author, having published her first novel, 'Veil of Deception' based on intelligence agencies, and is now working on her sequel.

She has some advice for student guides – "In 2013, if someone told me that I would be a part of so many Olympiads, I would've laughed. Life happens, you get opportunities, but more than anything, hard work counts the most. If you love volunteering and learning new cultures through Olympiads, then reach out and pursue such opportunities until you bag them. I have a lot of wonderful memories from every Olympiad. Trust me, 10 years later, you would be glad that you did, and you will have a circle of international friends. Exposure to Olympiads really help you to grow and evolve

as an individual. My motto is 'Whatever you do, be the best at it.'" She has a few words for the students, too. "I always encourage particularly girls to take up STEM. I want girls to understand that it is okay to take risks and venture into the unknown. Go to male-dominated fields and challenge the stereotypes there. Sometimes, you must stand up and boldly ask awkward questions – it's the only way you're going to get things heard from your perspective! And above all, don't ever quit pursuing your passion."

Tipping the scales

WHERE are the girls at the Physics Olympiad? The ladies speak...

In almost every Olympiad, we have seen that the number of girls participating is very less. Among 182 participants, we have 166 boys and 16 girls only, which makes it a ratio of 10:1. Only Switzerland and Luxembourg are the two teams having 2 girls among 5 members. There are 23 teams with only boys. A surprising discovery is that, problem narratives also make an impact differently on boys and girls. Perhaps, we need to make the narratives more oriented towards girls, so that female participation will increase not only at Olympiads, but also overall in STEM. Odita, from Team Latvia says, "I wish there were more girls in Physics, so that I could've befriended them. I'm puzzled about why the boys don't always come up to me to interact about so many things. There definitely needs to be a better push for girls in core science subjects."

However, the problem is not just about girls not being in STEM much. The problem is a deep-rooted issue of a sense of responsibility instilled in girls in their growing years. This is evident when girls excel at general exams than boys, but do not participate in competitive exams, because perhaps, the element of 'guilt of failure' is more in females than males.

Amusing anecdotes

Prof. Dr. Bojan Golli was part of the organizing committee in the IPhO 1985, at Portorož, Slovenia. He recalls the many hilarious memories that took place during the event.

The ladder

"The leaders finished translating the tasks sometime between 3 am to 4 am. It was up to us to copy the exams. But the door of the room with the copying machine was locked and the lady in charge of copying was not around. What was to be done? Drive to Ljubljana, 120 km away, use the copier in the faculty library and try to return before 8 am when the competition starts? Then someone noticed that the window of the room was open. But it was much too high to climb in through the window from the outside. Then someone else found a long ladder behind the building. So, I climbed up with exams and started copying. After a while, the lady entered, completely surprised. "Oh, I thought you would not finish translating so early," she said."

Figure 1: Comic strip: Nina Verdel

The closing ceremony

"With the list of official results, I was approaching the auditorium. "Who will lead the closing ceremony?" I asked my colleague who was responsible for the ceremonies and social activities. "Well, we thought it would be you." I replied, "You must be joking, I have no idea how the programme is going to run." The prize distribution went smoothly. But I did not know what was to come afterwards. And I started receiving instructions through the curtain. Absolute improvisation. And what did the audience think? Let me quote the report on the Olympiad in 'The Physics Teacher' (May 1986) by the American observers: '... There were no long speeches, and on the whole the proceedings were carried out with a lack of fuss and bother which were exemplary.'

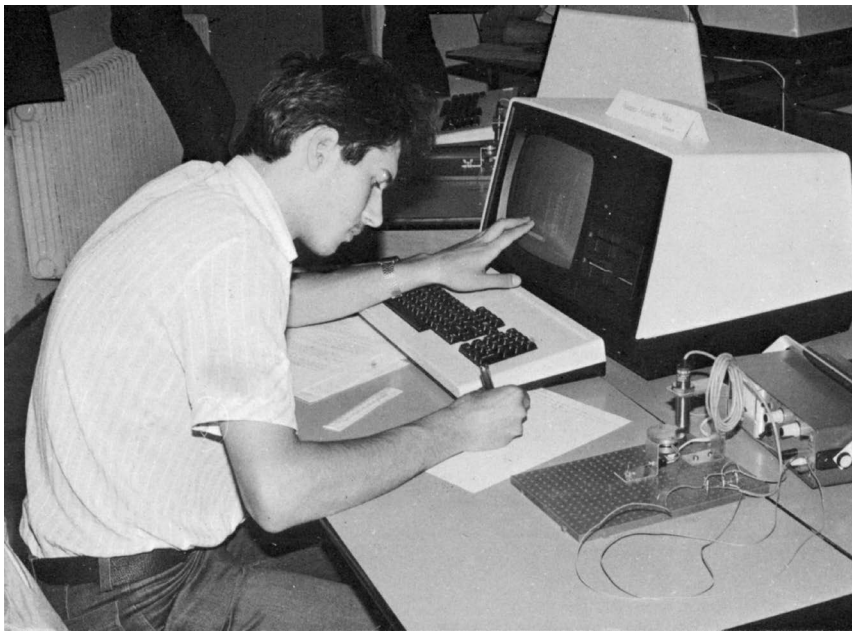

Figure 2: At the Olympiad in 1985

Recipe of walnut Potica – a traditional Slovenian sweet

Ingredients

Yeast dough:

0.6 kg	flour
40 g	yeast
3	egg yolk
400 ml	lukewarm milk
80 ml	sunflower oil
80 g	sugar

1 teaspoon of salt
butter for the mould

Filling:

350 g	minced walnuts
200 g	sugar
20 g	vanilla sugar
100 ml	milk
50 g	butter
3	egg whites

cinnamon
small amount of rum
lemon peel
raisins

Preparation

1. Make a dough. Mix yeast with 2 tablespoons of lukewarm milk. Sift the flour into a large bowl. Make a small hole in the middle of the flour and pour in the yeast mix. Leave to rise to double of its size in warm surroundings. In a small bowl mix egg yolk, the rest of the sugar, the rest of the lukewarm milk and salt. Pour the mix into the bowl with flour and yeast and start kneading. Knead the dough for 15 minutes or until you see bubbles and the dough gets separated from the bowl. Sprinkle the dough with flour, cover with a napkin and leave it to rise in warm surroundings.
2. For the filling, boil the milk and pour it on the minced walnuts. Add sugar, melted butter, cinnamon, lemon peel. Beat the egg whites and gently mix them in.

3. Spread the mould with butter and put a bit of breadcrumbs in, so the Potica won't stick on the mould. Roll out the dough until it is ½ cm thick and coat it with the warm filling. Sprinkle raisins on top (if you like them). Roll it tightly and place it in the mould. Leave the Potica to rise slowly. It will rise somewhat in the oven as well. Heat the oven to 180 °C. Before baking, coat the Potica with a beaten egg.
4. Bake for one hour, then leave it to cool in the mould for another 15 minutes. Turn the mould upside down and gently take the Potica out. Finally, sprinkle with sugar if you wish.

We would like to thank Dr. Saša Ziherl for this recipe!

A member from the academic committee speaks...

Dr. Simon Čopar shares his thoughts

So far, what was the hardest challenge that you faced while preparing the questions for the Olympiad?

The design of the experimental task is a constantly moving target, with new challenges appearing one after another. We have encountered almost every obstacle commonly seen in engineering tasks - from financial and manufacturing constraints, to design choices, and practical optimizations. However, the main challenge remains the one that touches the competitors the most - how to pose a task that ties together into a well-rounded story that feels fresh and interesting. Whether an experiment works or not, can be tested beforehand, but how well it is received by the students remains uncertain until the day of the task.

Which part – the theory, or practical were you particularly looking forward to more for the students?

I am quite biased towards the practical part of the Olympiad - I was anxious to see the students face the challenge and learn what innovative and original approaches they take.

What academic advice would you give to the students and even leaders in this Olympiad?

Always reserve some time to follow new literature, not only in your research field but main breakthroughs in general. It is easy to lose track of the current developments and reading about them can inspire new ideas and give you fresh perspectives.

What are your expectations from this Olympiad?

It is hard to talk about expectations without talking about wishes - I certainly wish that the students remain healthy and safe throughout their stay, and that they leave with positive impressions about their visit. If the tasks and the organization is remembered in a positive light for years to come, we can count our expectations fulfilled.

According to you, what is the most interesting or favourite aspect or theory in Physics?

My favourite part of physics are analogies - when the same solution and the same behaviour appear in fields that seemingly have very little in common.

In terms of Physics practicals, what would you encourage students to perform more experimentation on, to explore their curiosity?

Simon Čopar

In the last decade, cheap ready to use microcontrollers, modular components, 3D printing, and great services for affordable made-to-order parts have made it much easier to connect experimentation with the worldwide maker community and take classroom and home experiments to the semi-professional level. It is very stimulating to see that for a very little cost and moderate skill level, one can make something useful. But it takes a little push to dare venture into these waters -- teachers and mentors at all levels of education are in a great position to make the transition, even on a limited school budget.

EuPhO Moments

Team Colombia arrives at the Opening Ceremony

Interactions

Students visit the Škocjanske jame caves

Team Tajikistan

Team Italy

Students listening attentively

Smiles and laughter

At the Opening Ceremony

Team Estonia

Team Slovakia

Team Georgia

Leaders at the Vintgar gorge

The experiment exam

Graders working

The passing of a stalwart - Michel Feys

We lost a physicist, meteorologist, and mentalist

Some of you may remember Michel Feys, the team leader of Belgium at previous Olympiads. A physicist by training, Michel Feys taught mathematics and physics at the Saint-Michel college in Etterbeek since 1985. Specializing in weather and solar energy, he later entered the field of presentation of weather reports in 2001. He was also an accomplished illusionist and magician. He discovered his passion for magic as a teenager and would display his shows at various festivals. At the news studio, Feys would sometimes even punctuate his weather reports with a quick illusionist trick.
Michel Feys passed away on Wednesday March 18, this year. He would have turned 60. The people of this Olympiad mourn his passing and offer condolences to his family and close friends. We have lost a fine physicist and an amazing person.

Cogwheel: People behind the Olympiad

Two people who have been working tirelessly for this Olympiad are Dr. Barbara Rovšek and Dr. Jurij Bajc. Olympiads are demanding events, and as part of the organizing committee, they have spent months working very hard for the preparation, coordination, and ensuring that everything works flawlessly. We have seen them deeply immersed in work, and they both address every query with great care and patience. They were delighted to welcome the students at Ljubljana, after the long and dry spell of no physical Olympiads due to the pandemic. “We hope that the take-away for every student from this Olympiad was great experience and knowledge of not only experimental and theoretical physics, but also friendship, a taste of Slovenian culture, and wonderful memories.” A heartfelt thanks to Dr. Barbara Rovšek and Dr. Jurij Bajc from everyone at this Olympiad!

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