

## EGMO 2022

We are the EGMO team of 2022:

Raka Chattopadhyay

Rebekah Glaze

Aanya Goyal

Eleanor MacGillivray

Tatiana Mouzykantskii

Jenny Owladi (leader)

Kasia Warburton (deputy leader)

What follows is a brief report of an amazing trip - enjoy!

### Day 1

The UK team gather at the airport after two days at home following the Trinity training camp. Tatiana hands out our GB face masks (which are definitely NOT creepy at all) and Kasia produces the team mascot corgi. We are horrified to discover it doesn't have a name and we all agree on Sir Geoffrey the Second of Spades (a tribute to His Royal Highness of UKMT Monarchy, Geoff Smith, and the product of many games of Mao at Trinity).

*Team UK at the airport, looking slightly Joker-esque:*



Having established a reputation at Trinity for her tendency to offer chocolate with remarkable frequency to anyone within a 5-metre radius, Tatiana keeps us well-fed with Smarties as we navigate the airport.

A long check-in process gives rise to some dodgy games of I-spy and cucumber with very questionable spellings. It's definitely fair to say that the spelling is not one of the UK team's strengths (except for Raka who is like a dictionary). We have compiled some highlights below:

Spelling list:

- Fone (Eleanor)
- Chair without a c (Kasia)
- Isoceles (Tatiana)
- Ther (Tatiana)
- Perfect spellings of everything so far (Raka and Rebekah)

Eventually we are all checked in and make our way through security. Tatiana, the probability expert, tries with limited success to persuade us that there is a 50-50 chance we will meet a dinosaur on the way to Eger: "We'll either see one, or we won't". Aanya tries to take two full bottles of water through and is (unsurprisingly) stopped. She later drops one of these (now empty) water bottles in front of the plane, losing it just before boarding!

Aanya is determined to capture footage of the plane taking off, and proceeds to use Rebekah as a tripod in order to obtain said footage. Unfortunately it takes us almost 20 minutes of reversing and manoeuvring before taking off, during which time Aanya films pretty much continuously. The plane journey itself is relatively uneventful and we arrive in Budapest. We are greeted by our guide, Olívia. At the airport, Tatiana buys a packet of Pringles for 7 pounds and proceeds to drop several on the pavement, essentially throwing away pure gold... We get on the coach with several other teams, and everyone is tired by this stage. Kasia learns all about the Polish olympiad selection process.

We make it to the hotel and check in, before eating our packed tea as a team and then heading to bed. We are bestowed with EGMO-branded goodie bags, which include an enormous book on the history of Eger, a luminous yellow T-shirt and positively glowing green pac-a-mac.

## Day 2

At breakfast we have fun deciphering the allergy symbols - it seems that finding decent food for Raka is proving fairly difficult. Eventually we conclude that the symbol that looks like egg is egg, the symbol that looks like nuts is nuts, and the symbol that also looks like nuts is actually soya (although we were confidently told it was the symbol for eggs), and Raka finally manages to have a proper meal.

We then go to the opening ceremony at Gardonyi Theatre, which is a 5-minute walk from the hotel. The ceremony features lots of people essentially saying the same thing (good luck and enjoy the event), and Jenny predicts that the deputy mayor will say that he was not very good at maths in school. We will leave it as an exercise for the reader to find out what he actually said.

One of the highlights of the ceremony is a Hungarian electro-folk-rock band. After the ceremony, Rebekah immediately messages the other members of her rock band to demand a change of genre.



In the afternoon, we are presented with a treasure hunt around Eger. Each station of the treasure hunt has a task associated with it. We all try not to wet ourselves with laughter as Aanya shouts pancake-making instructions down a well in pursuit of the answer to a task, with increasing volume. Later, we ask the guide stationed nearby whether anyone else took the task as literally as us. Apparently no other team shouted down the well for as long as Aanya, or as vigorously.

While wandering round the Eger castle walls, Kasia teaches us to sing 19 digits of pi to the tune of Mamma Mia. After much difficulty learning the digits and their order, we proceed to sing the song as loudly as we can for as long as we can, and find it hilarious. We decide that this should be our team chant, and for the rest of the week try to intimidate the other teams with our thorough knowledge of the ratio between a circle's circumference and its diameter.

In the evening, we turn up for dinner at 6pm and are the first team to arrive. This trend continues throughout the rest of the week. Tatiana complains that the wall sockets in Trinity were on the wrong side of the bed. Kasia offers a solution - she could have slept facing the other way. Raka immediately deduces that this would involve turning the entire bed around, which would involve too much effort. We all laugh at this classic mathematician's intuition, as Kasia calmly explains that putting the pillow on the other side might be easier!



### Day 3

Raka and Rebekah wake up at 6.15. Next door, Tatiana is woken at 6.20 to the sound of Rebekah's shower, and immediately asks Eleanor whether it's raining. We all ridicule her for this at breakfast.

Tatiana attempts to calm everyone down pre-exam with her advanced and highly technical knowledge of probability: "it's 50-50 guys - we either do well or we don't".

The first exam happens. Eleanor is the first to leave the exam hall and is ambushed by a cameraman who wants to interview her.



In the afternoon, we attend various workshops. Raka, Aanya and Rebekah attend an estimation and decide that nobody really cares how many dairy cows there are in Hungary, or what the lowest common multiple of the medal totals at the most recent Winter Olympics was.

We discover the daily official highlights videos on the EGMO Facebook page, and Eleanor is relieved to find that her interview does not feature. Tatiana (and her fluffy good luck charms) feature prominently.

Our guide, Olívia, tells us we are ‘amazing women of the United Kingdom’, which is definitely a morale boost.

#### Day 4

Another exam happens. After the exam, we all suffer from varying degrees of post-olympiad stress.

*Contestants with post-olympiad stress:*



In the afternoon, we pretend to trade in the stock markets, then go to Eger Castle to watch some people pretend to be 16th-century castle-dwellers. We watch a 'soldier' fire a very big, very scary 16th-century gun, and wonder whether this is covered by the UKMT risk assessment. The 'soldier' is wearing some fetching yellow boots, which we decide would go very well with the luminous green poncho inside which Eleanor has taken up residence for the day. Aanya takes lots of pictures with the castle staff.

*At the Morgan-Stanley workshop and the luminous poncho:*



## Day 5

We start with a quick one-on-one discussion of our proposed scores with Jenny and Kasia after breakfast. In general, everyone has gained more partials than anticipated. However, Eleanor learns there was a mistake in her question 2, which is disappointing for her and she starts the day worrying about whether she will get a gold. What follows is over 6 hours of stress and constantly reloading the live scoreboard, during which we see Eleanor change expectations and mood faster than we thought possible.



After collecting our packed lunches from Olívia (who is NOT impressed with our inability to eat two sandwiches each, and tries unsuccessfully to stop us throwing the extra ones away), we get on the train to the Szalajka valley for a mathematical game. Raka and Rebekah are attacked by a tree. As scores start to roll in on the live scoreboard it's clear our phones are going to get a good workout. To Olívia's exasperation, there is no doubt that the scoreboard is taking priority over the excursion!

*In the valley - all scores now confirmed:*



We decide to film ourselves singing our team chant with the forest in the background, and receive applause when we finish. We are approached by a very nice official videographer who then films us singing it a second time.

Aanya temporarily defects to the Indian team, on the grounds of pizza.

On the journey back to Eger, Aanya and Rebekah count 10 people filming our train as it passes. We wonder what the ratio of official EGMO photographers to train enthusiasts is.

Brief bullet-point summary of the day:

- 08:00 - Eleanor finds out she didn't get a full solution to question 2.
- 08:10 - we start looking through all the previous gold medal boundaries to see if we can predict this year's boundary.
- 09:00-12:00 - scores start rolling in. After 40 minutes of painful coordination, Raka's question 4 solution has been elevated to 6 marks, and we are all hopeful for medals. It starts to become clear that Eleanor is one of the top in Europe, prompting her aspirations to skyrocket. It is no longer "will I get gold?", but her competitive side starts to come out as we wait to see who will overtake her. The rest of the team can't take their eyes off the cumulative score lists as we deliberate over the medal boundaries. As Eleanor stresses, Aanya tells her to 'hush your mouth', which for once is a sound piece of advice.
- 13:00 - waiting for results from one girl from Bosnia and all of the Bulgarian team turns out to be nerve wracking.
- 14:30 - we realise that the coordinators also have to have lunch, so the past hour and a half of webpage refreshing has been completely pointless.
- 16:00 - the Bulgarian team fail to attain Eleanor's score and one of the scores of the Bosnian girls comes in, making it impossible for anyone to overtake Eleanor. Eleanor is delighted, but maintains (stupidly) that it was all luck.
- 17:00 - the final scores come in, and Eleanor comes out at the very top in Europe. We also realise that all of us will get medals, which makes the ride back to the hotel absolutely incredible.

*Film night:*



The day ends with a film night in Tatiana and Eleanor's room - we watch 'Legally Blonde'. Kasia and Jenny join us but have to leave at 9 for the jury meeting to determine the medal boundaries. They message us the outcome and we are all delighted. We cheer and pile in for a team hug.

## **Day 6**

We awake to find that our pi video from yesterday has made the official highlights reel for day 5. At breakfast, Olívia firmly instructs us not to discard any of the food we are given today. Eleanor and Tatiana promise to bring a backpack each in order to avoid a repeat of yesterday, pacifying Olívia.

We spent the day sightseeing in Budapest. Before leaving the coach, we are informed that there will be a military defence test at 11.00, and that we should expect to hear sirens. To avoid being alarmed by the alarms, we set an alarm for

10.55. This turns out to be more alarming than the alarms themselves, which didn't actually happen.

*Seeing the sights in Budapest:*



Outside St Stephen's Basilica, Aanya inexplicably decides to lie down on the floor. When we stop for lunch, Eleanor puts her sandwich down on a stone ledge and has to throw away the bottom half. We decide that we are all very tired after the late night and emotions of yesterday!

The conversation turns to the selection of dire maths (and chemistry) songs available on the Internet, at which point Tatiana reveals that she doesn't know what SOHCAHTOA is. We laugh at her for about 5 minutes, and send her to go and ask Kasia and Jenny. Kasia tells her that she will find out when she is older and wiser, which makes us laugh again.



Raka, Olívia, Jenny, Anya, Rebekah, Tatiana, Eleanor and Kasia head to Starbucks, and after ordering our drinks, we collect beverages for Raka, Olivia, Jenny, Jenny, Rebecca, Tatjana, Eleonor and Tasha. Raka manages to restrict her enjoyment of the post-sightseeing coffee by burning her tongue after the first sip. She is also the only member of the UNK delegation who consumes any caffeine at Starbucks, with the general consensus being that people are planning to sleep on the coach back. She manages to sleep anyway.

We head back to the hotel and get ready for the closing ceremony. There is an elaborate seating plan, and we successfully manage to share three flags between us. We settle in to watch the official highlights reel and are horrified to discover that the full 18 seconds of our pi song have made it into the video. It feels more like 80 seconds. Tatiana puts her head in her hands, and the medallists on either side of Eleanor take great pleasure in pointing out that she is on the screen. To our astonishment, the clip receives a huge cheer.

The bronze medals are called first and Rebekah is terrified to be the first up. She fails to look at any of the cameras pointing her way, resulting in some awkward photos. After some traditional dancing, the silvers and golds are called, and we whoop for Eleanor as she goes onto the stage.

Rebekah is first up and Eleanor receives her gold:



We return to the hotel for dinner and a party. The party includes some extremely tiring Hungarian folk dancing. The trick seems to be to situate yourself next to someone who knows what they're doing. After the folk dancing we have non-folk dancing, and we are reliably informed by Kasia that the UK has a history of leading the Macarena. We dutifully continue the tradition.

At the farewell party:



The Belgian team decide to play an impromptu version of 'capture the flag' with our precious Union Jack. What follows is a mad race around the dining hall, during which the Irish team comment that they have never seen anyone fight so hard for the Union Jack. Eventually we manage to extract it from their possession, only for them to steal a second flag, which Kasia and Jenny were supposed to be looking after. They then take the flag hostage and demand that we play Mao with them in order for it to be returned. We surrender reluctantly and enjoy the game before heading up to pack and to bed.

### **Day 7**

We are all tired this morning, and emotional too. At breakfast, we sing 'Happy Birthday' to Aanya. Some members of the Italian team come over with a birthday present, which is kind and thoughtful.

We catch the coach to the airport, and the ride is uneventful. We spot a dinosaur on the way home\*.

\*This may not be factually correct.

### **Thank you!**

We would like to say a special thank you to everyone who supported us on this journey - to the UKMT, the EGMO organisers and everyone who made the trip so smooth; to our wonderful guide, Olívia, who was enthusiastic and welcoming and put up with us being late to literally everything; to our teachers, supporters and mentors; but most of all to Jenny and Kasia. You have both been incredibly supportive and encouraging and we are immensely grateful to you. (Especially for putting up with Eleanor's 10 page combi solutions, calming Aanya's antics, deciphering Rebekah's rough work, pushing for Raka's 6 marks on Q4, and forgiving Tatiana for thinking  $-\frac{1}{2}-\frac{1}{2}$  is equal to 0). We know how much time and energy was spent to get us here.



**Footnote from Jenny and Kasia:**

What can we add that is not already covered by this highly detailed and factually accurate report, except to say congratulations to all the girls for their hard work leading up to the competition, thank you for being such excellent travel companions, and also a big well done on their results. Also thank you to everyone involved in training, camps, the UKMT office, our sponsors XTX Markets, and the Hungarian organisers for their contributions to the success of this first in person competition since 2020 - what a way to get back into the swing of it! Good luck to all the girls in their mathematical futures, both in olympiads and beyond.

**P.S. from the contestants:**

If any of the UK EGMO teams of the future have managed to read this to the very end, we wish you the very best of luck! Look inside Sir Geoffrey for a small surprise.