

# October 2022

The Circle Zone ([circle.imamathematician.ie](http://circle.imamathematician.ie)) ran from 26 September to 21 October 2022. It was funded by SFI and ran to support Maths Week Ireland 2022. This was the first time *I'm a Mathematician* was run in the Republic of Ireland.

The Zone featured **17 STEM professionals** in occupations that use maths, ranging from academic staff to actuaries and language coders. [You can see who took part here >](#)

They connected with **485 students** from across the Republic of Ireland. **445 students (92%) actively participated** by writing Chat lines and asking follow-up questions.

## Key activity figures

Schools	21
Students logged in	485
% students active	92%
Mathematicians	17
Questions asked	131
Questions approved	69
Answers given	119
Live Chats booked	44
Live Chats occurred	28
Lines of live Chat	9,458
Average lines per live Chat	326
Votes cast	282

## Who took part?

485 students from 21 schools across the Republic of Ireland logged into the Zone and connected with 17 mathematicians.

Impressively, 80% of active students were from priority schools: 57% from underserved schools and 27% from widening participation schools.

A total of 282 votes were cast by students. The winning scientist with the most student votes was **Daniel McAleese**, Actuarial Contractor at CACI Dublin.

## Activity

44 live Chats were booked. 28 took place.

Out of the remaining 16 Chats booked, 6 were cancelled and in 10 the school did not attend and did not give notice. All schools were chased and invited to rebook.

There were 2 live Chats where the teacher asked questions on behalf of their students. It was very common for students to share login details or computers during live Chats with one school bringing 90 students on for the Chat. Therefore, the number of students engaged will be higher.

Students asked 131 follow-up questions of which 69 were approved and 64 were duplicates.

## School activity

Students from 21 schools across the Republic of Ireland participated in the Zone.

School	Students logged in	Active users	Chats attended	Chat lines (total)	Chat lines (per user)	Questions approved	Votes
Scoil an Croi ro Naofa, Cork (DEIS)	59	58	3	821	14	22	35
Kilternan N S 1, Dublin (U)	49	48	2	431	9	0	18
Belgrove SGNS, Dublin (U)	42	42	4	692	17	13	22
Kingswood Community College, Dublin (U)	41	40	1	375	9	8	27
St Margarets N S, Dublin (U)	42	40	2	754	19	4	22
Druimne N S, Cork (DEIS)	23	23	1	334	15	4	20
St Finians Community College, Dublin (DEIS/U)	25	23	2	137	6	3	13
Fingal Community College, Dublin (U)	23	22	1	116	5	0	16
St. Leo's College, Carlow (U)	26	21	1	116	6	2	21
Newport Central, Mayo (DEIS)	20	21	1	218	10	1	18
St Molaga's School NS, Dublin (U)	19	19	1	372	20	1	19
Heywood Community School, Laois	21	19	1	153	8	0	19
Ard Scoil na nDeise, Waterford	19	17	1	166	10	4	1
Calasanctius College, Galway	20	17	1	100	6	0	0
St. Mary's Secondary School, Cork	15	15	1	20	1	2	12

Funded by:

Gaelscoil Na Cruaiche, Mayo	8	9	1	69	8	3	1
Patrician Academy, Cork	10	9	1	85	9	1	5
Our Lady's National School, Carlow (U)	8	7	1	119	17	1	6
St Mary's Convent, Tipperary	7	7	1	150	21	0	7
Cabinteely Community School, Dublin* (DEIS/U)	0	1	1	21	21	0	0
Coláiste Chill Mhantáin, Wicklow* (U)	8	1	1	20	20	0	0

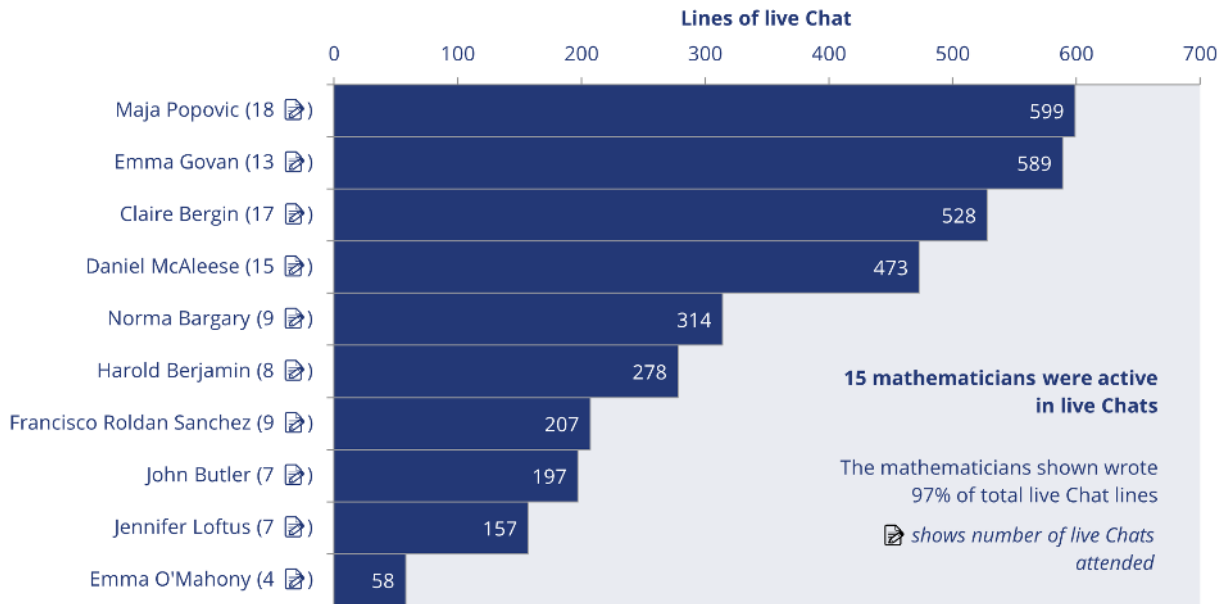
\* In these chats teachers typed questions on behalf of their students, with the chat displayed on a screen.

We want to increase the participation of under-represented groups. Find out what we mean by under-served (U) and DEIS (Delivering Equality of Opportunity in Schools) schools, and how you can support us in working with more of these: [about.imascientist.ie/under-served-and-wp/](https://about.imascientist.ie/under-served-and-wp/)

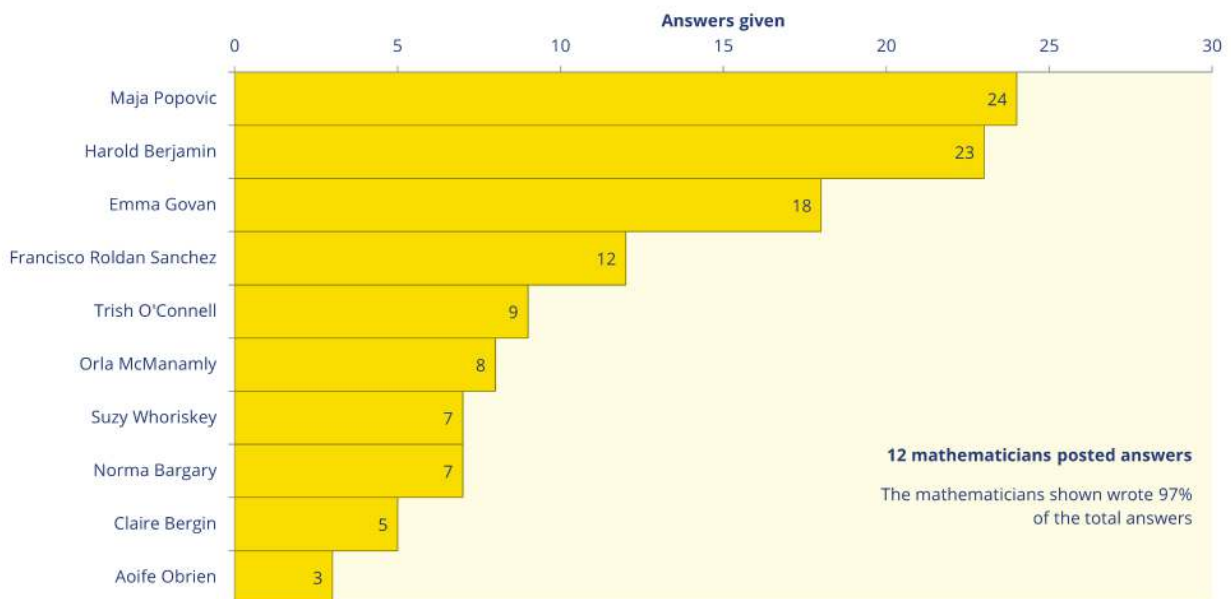
# Mathematician activity

During the Zone the mathematicians interacted with students by writing 3,514 lines of live Chat, and providing 119 answers to 69 posted questions. On average, 3 mathematicians were in each Chat.

**10 most active mathematicians in live Chats**



**10 most active mathematicians in posting answers**



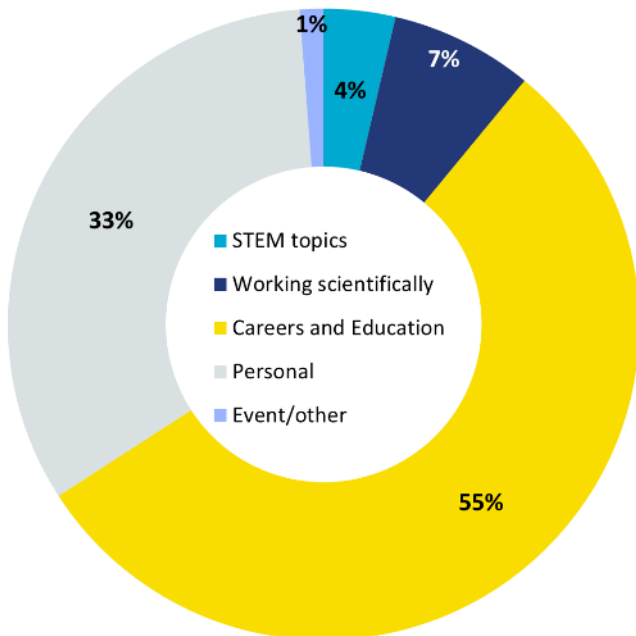
## Live Chats

The word cloud below demonstrates what students and mathematicians talked about in live Chats. The bigger the word, the more frequently it was used. We have removed the words 'maths' and 'mathematician' which dominated the original word cloud.



## Questions in Ask section

The chart below shows a breakdown of questions students sent to the mathematicians. Examples are coloured by category.



What animal eats the most food according to your calculations?

What part in maths do you find you use the most?

How many robots have you made?

Is maths much different after school?

How did you go from McDonalds to chief financial risk manager?

What exactly is a postdoctoral researcher? Is that related to medicine?

What is your favourite number?

Do you have an older sibling that helps you?

## Good engagement

Students get to ask questions that are important and interesting to them. Highlighting the relevance of maths and how interests could be combined supports students' science capital<sup>1</sup> and makes them more likely to see STEM as something 'for them'.

**Student 1:** What is the best things about maths?

**John (mathematician):** You can use it for everything, I use maths to understand how our brain works

**Student 1:** Cool

**Emma (mathematician):** It's everywhere! We used it to get to space, and we use it to decide what football players to buy, and everything in between!

**Claire (mathematician):** It doesn't matter if I can't spell well!

**Student 1:** I like maths and music

**Claire (mathematician):** There's a lot of connection between maths and music!

**John (mathematician):** People believe maths and music are closely linked and there are algorithms (maths for computers) to make music

**Emma (mathematician):** There's lots of maths in music! You could combine them :)

**Student 1:** That's cool

Finding common interests makes mathematicians appear like "normal people" and enable a rapport to be developed between mathematicians and students

**Student 1:** What was your least favourite subject in school?

**Maja (mathematician):** History

---

<sup>1</sup> Read more about supporting students' science capital here >

**Student 1:** Same!

**Maja (mathematician):** :)

**Student 1:** What team do you support?

**John (mathematician):** Arsenal but generally I like to follow Irish players

**Student 2:** I support Liverpool

**Emma (mathematician):** ME TOO!

Asking questions relating to mathematicians' work and maths in general, can help generate interest in the subject area.

**Student 1:** If you could solve one unsolved maths problem what would it be and why?

**Emma (mathematician):** Maybe the millennium problems...they come with a big prize.

**Student 2:** What are the millennium problems?

**Emma (mathematician):** They are a list of problems set by a famous mathematics institute - all things humans have been wondering about for years but no one has been able to prove them yet (or disprove them!). One has been solved so far, and there are six left

**Student 1:** What is the most dangerous activity?

**Daniel (mathematician):** They are not what you expect. Some obvious ones e.g. base jumping, motor biking. Some not so obvious e.g. horse riding, scuba diving

One of the most dangerous sports is free diving. Another sport with high death rates during play is garden bowls - can you guess why that is??

**Claire (mathematician):** This is something I did not expect!

**Student 1:** Is that because of the age of the people playing?

**Daniel (mathematician):** Exactly! (This is a good lesson in correlation vs causation - just because there is a trend between 2 factors, doesn't mean one is directly causing another!)

Information and advice on mathematicians' careers can be useful to show students what they need to do to get there.

**Student 1:** What is an actuary?

**Daniel (mathematician):** an actuary uses data and maths to project future risks. This allows companies to manage their risk better, invest better, price better etc.

**Student 1:** How did you get into your job?

**Maja (mathematician):** I first worked with sound and maths, then concentrate on the speech sound, then started to work on speech recognition (writing something said automatically, using maths), and then finally maths for translating between languages

**Francisco (mathematician):** I had a professor at university that was the only one doing artificial intelligence, and since I was interested in that topic I started working with him

**Harold (mathematician):** After I completed my PhD studies, I contacted many labs and scientists across Europe. I got very encouraging replies from Ireland, where I successfully applied for a position!



## Mathematician of the Week

Students voted for their favourite mathematician to be named the winner each week.

The Mathematicians of the Week were:



**Francisco Roldan Sanchez**, PhD Student at Insight Centre for Data Analytics



**Maja Popovic**, Assistant Professor at Dublin City University

## Mathematician Winner

The overall winner, with the most votes at the end of the Zone was:

- **Daniel McAleese**, Actuarial Contractor at CACI Dublin

As the winning mathematician of the zone, he receives €500 to spend on further public engagement projects.



"We had a really interesting collection of people this year. I hope the students learned as much from chatting to these fascinating people as I did. It was testament to the mathematic talent across our country, and a perfect example of the diversity of avenues which studying mathematics can afford you."

Read his full statement at [circle.imathematician.ie/2022/10/28/a-thank-you-from-your-winner](https://circle.imathematician.ie/2022/10/28/a-thank-you-from-your-winner)

## Feedback

The maths talk went so well! They really enjoyed it and asked really great questions! I would definitely do it again, maybe for a few minutes less but overall was brill! Thanks so much for organising it! **Teacher**

Lovely to meet a Tipperary female mathematician, we are a girls school, you are very inspiring.

**Student**

Thank you for this. It changed my perspective on being a mathematician.

**Student**

I really enjoyed the online typing aspect of this. I loved that I was able to really think about my answers and word them correctly to ensure I was getting my message across properly. It was absolutely fantastic!

**Emma** (mathematician)

Thanks so much for taking the time to do this chat - the children have loved it and it really opened their eyes to the possibilities of maths

**Teacher**



**Rang a Sé**  
@StMoiaga5

Thank you so much to the mathematicians who answered all of our questions today. We really enjoyed our live chat.

[@mathsweek](#) [@imamaths\\_team](#)  
[#ImAMathematician](#) [#maths](#) [#fun](#)

Thank you so much, I didn't know maths could be so good.

**Student**