

# November 2022

The Aluminium Zone ([aluminium.imascientist.ie](http://aluminium.imascientist.ie)) ran from 7 November to 2 December 2022 and was funded by Science Foundation Ireland.

The Zone featured **30 scientists** working across a variety of STEM fields. They connected with **817 students** from across the Republic of Ireland. **697 students (85%) actively participated** by writing Chat lines and asking follow-up questions.

## Key activity figures

	Zone
Students logged in	817
Students active	85%
Schools	27
Scientists	30
Live Chats booked	79
Live Chats occurred	42
Lines of live Chat	13,904
Average lines per live Chat	331
Questions asked	651
Questions approved	328
Answers given	938
Scientist comments	34
Student comments	28
Votes	390

## Who took part?

Students from 27 schools across the Republic of Ireland logged into the Zone.

66% of active students were from priority schools: 53% from underserved schools and 25% from DEIS schools. Students can be from a school that is both DEIS and underserved.

A total of 390 votes were cast by students. The winning scientist with the most student votes was **Vincent Monchal**, PHD Researcher at Department of Geology at Trinity College Dublin.

## Activity

79 live Chats were booked. 42 took place.

Out of the remaining 37 Chats booked, 20 were cancelled and in 17 the school did not attend and did not give notice. All schools were chased and invited to rebook. The high number of schools not attending without notice prompted us to contact teachers about their Chat in advance, checking if they were able to attend.

There were 2 live Chats where the teacher asked questions on behalf of their students. It is also common for students to share login details or computers during live chats. In one Chat we had 90 students take part, sharing devices between 4 students. Therefore, the number of students engaged will be higher.

Students asked 651 follow-up questions of which 328 were approved and 169 were duplicates.

## School activity

Students from 27 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
St Colman's Community College, Cork (DEIS)	79	68	3	650	10	40	53
Coláiste Mhuire, Clare (U)	64	63	4	790	13	19	36
CLARIN COLLEGE ATHENRY, GALWAY	63	61	4	1,018	17	2	23
Griffeen Community College, Dublin (U)	66	53	3	405	8	9	25
Tyrrelstown Educate Together National School, Dublin (U)	49	50	2	603	12	2	11
Colaiste Bhaile Chlair, Galway	42	42	2	233	6	15	40
Community School, Kilkenny	38	39	2	249	6	102	14
Christian Brothers, Synge St., Dublin (DEIS/U)	45	38	2	429	11	4	11
Kingswood Community College, Dublin (U)	64	36	1	190	5	7	0
Sacred Heart School, Mayo	36	31	3	310	10	1	18
Wicklow Educate Together Secondary School (U)	36	27	2	154	6	7	16
Scoil Naisiunta Ath Na Lionta, Cork	23	24	1	298	12	16	0
St. David's C.B.S., Dublin (DEIS/U)	22	22	1	149	7	41	6
Coláiste Chiaráin Summerhill, Roscommon (U)	19	20	1	156	8	3	15

DRUIMNE N S, Cork (DEIS)	21	20	1	147	7	1	19
St Pius X Girls National School, Dublin (U)	35	19	1	239	13	8	20
Dominican College, Galway	16	17	1	189	11	10	16
Balbriggan Community College, Dublin (DEIS/U)	16	15	2	87	6	7	12
St Finians Community College, Dublin (DEIS/U)	24	14	1	191	14	3	13
Christ Church National School, Lower Newtown, Waterford	12	13	1	196	15	1	12
Gaelscoil Na Cruaiche, Mayo	12	12	1	122	10	6	11
Belgrove SGNS, Dublin (U)	11	11	1	170	16	0	2
Rockboro School, Cork	9	10	1	100	10	22	8
St Molaga's School NS, Dublin (U)	11	9	1	39	4	1	5
Killinarden Community School, Dublin (DEIS/U)	4	5	1	91	18	0	4
Scoil Mhuire Lakelands Sandymount* (U)	0	1	1	38	38	0	0
MULLINGAR EDUCATE TOGETHER, Westmeath* (DEIS)	0	1	1	34	34	0	0

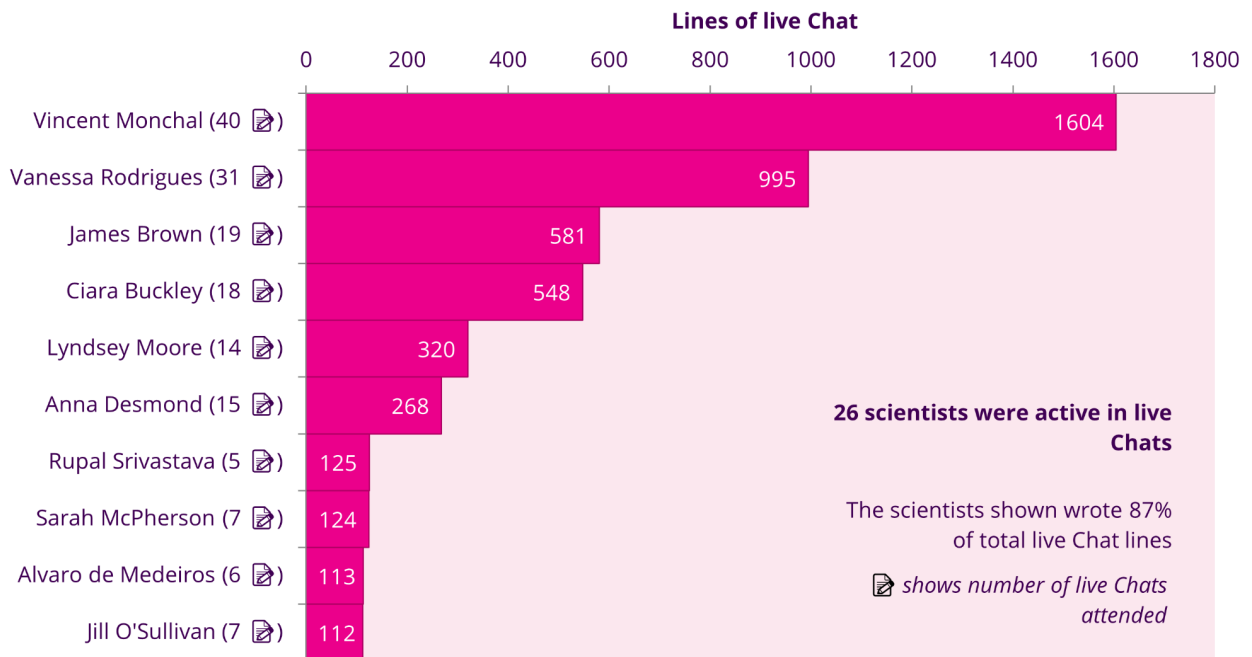
\* In these chats teachers typed questions on behalf of their students, with the chat displayed on a screen.

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

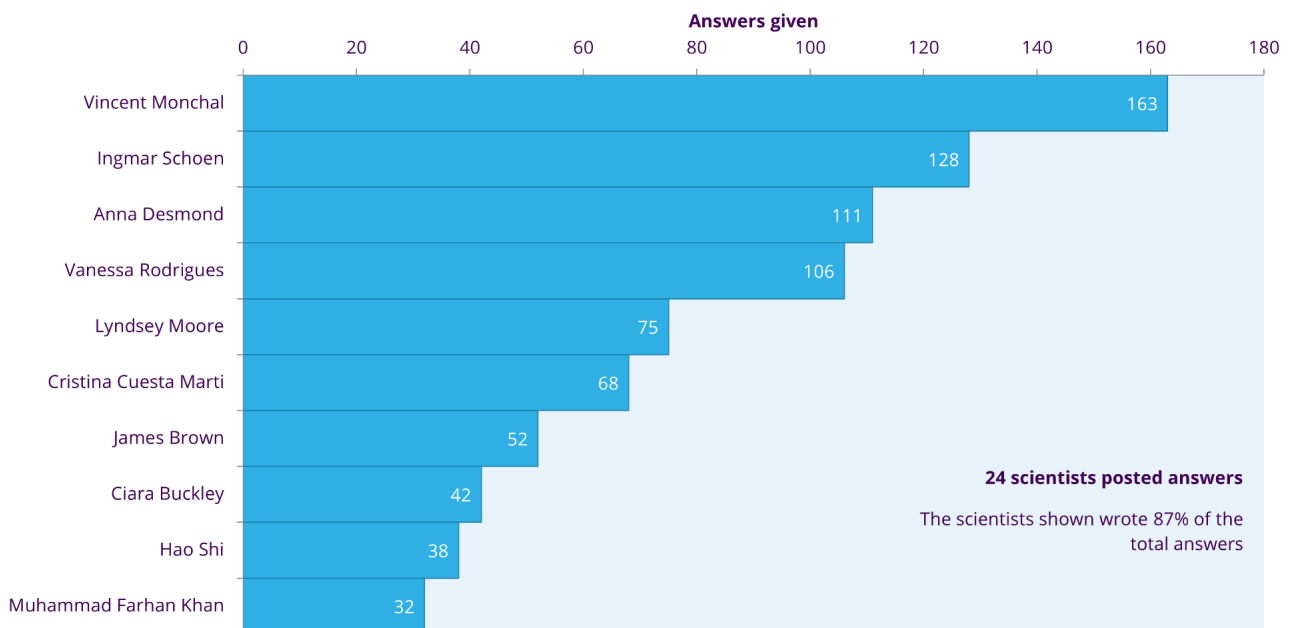
# Scientist activity

During the Zone, the scientists interacted with students by writing 5,517 lines of live Chat, and providing 938 answers to 328 posted questions. On average, 4 scientists took part in each live Chat.

## 10 most active scientists in live Chats

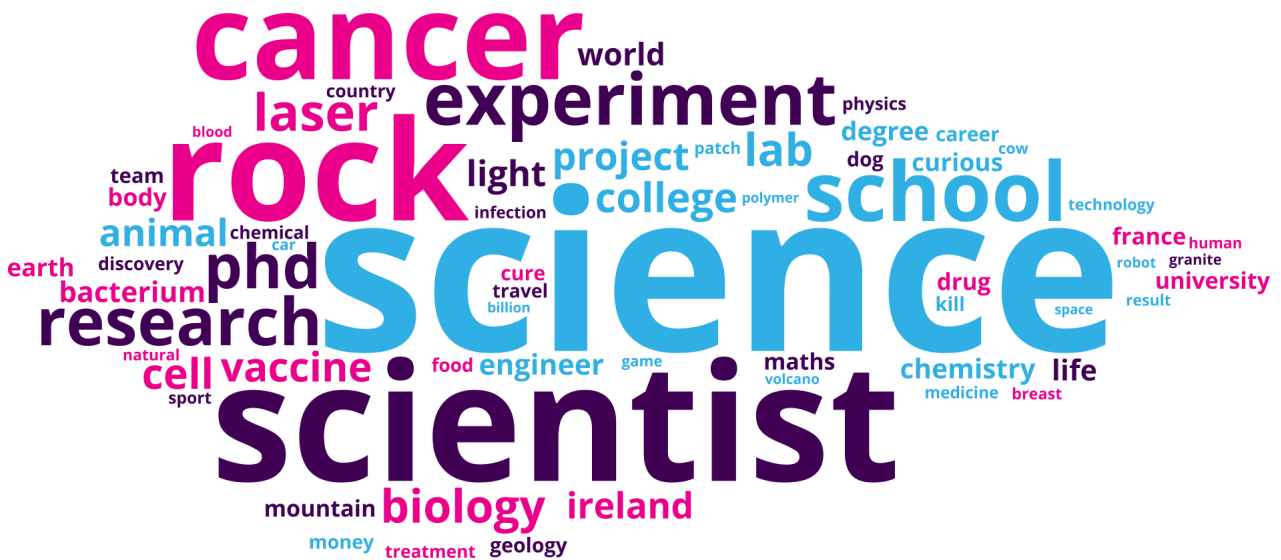


## 10 most active scientists in posting answers



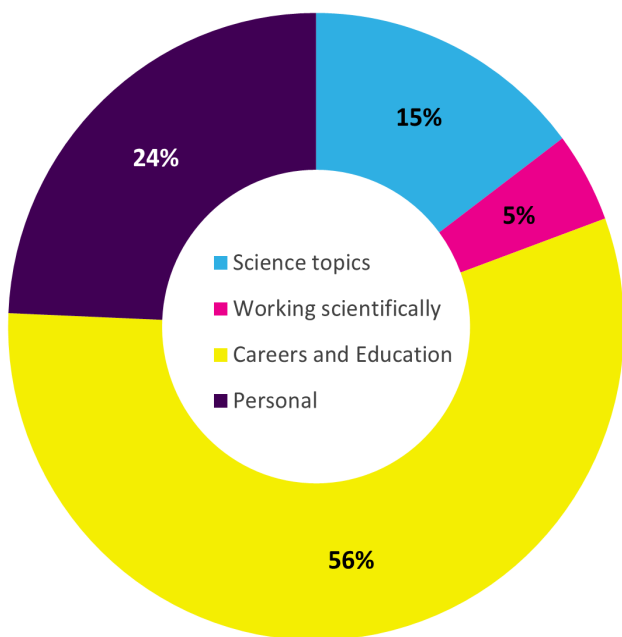
## Live Chats

The word cloud below demonstrates what students and scientists talked about in live Chats. The bigger the word, the more frequently it was used.



## Questions in Ask section

The chart below shows an analysis of questions students sent to the scientists. Questions are coded into overarching categories. The examples are coloured by category.



- What are blood clots?
- During convection current how does the magma move the plates because I learnt about it recently and I was curious?
- How does your research affect breast cancer? Does it give better life expectancy?
- How do you use lasers?
- Have you always wanted to become a geologist?
- What advice would you give someone who wants to be a scientist?
- How many days in a week do you work in the lab?
- Do you like pokemon?

## Good engagement

Asking questions they find interesting and relatable is important to support students' science capital<sup>1</sup> and makes them more likely to see science as something 'for them'. These interactions are especially helpful for students to see science as relevant.

**Student 1:** I live on a dairy farm, what could I do to reduce global warming on the farm?

**Siobhán (scientist):** Maybe look at the whole issue of climate change, biodiversity loss, and resource management rather than just global warming. On a farm, you could look at the biodiversity - if there are hedges on the farm - do they have native species and could you encourage more of that?

**Student 1:** How does your work affect the world?

**Sean (scientist):** Hopefully my work will eventually make it out of the lab and into the clinic for the next generation of wound healing!

**James (scientist):** Great question! My work is trying to understand how normal cells become cancer, and we use that knowledge to design drugs to specifically kill cancer cells and hopefully help people live longer.

**Vanessa (scientist):** I aimed to help speed up electronics speeds by substituting it with light, like say to make your phone work faster. I was working on lens designs that can be miniaturised for a chip.

Information and advice about scientists' careers can show students the range of possibilities for working in science and what they need to do to get there.

**Student 1:** How long do you have to study to become a scientist?

**James (scientist):** At least an undergraduate degree I would say (4 years in Ireland, some other places 3 years).

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<sup>1</sup> [about.imascientist.org.uk/student-impact](http://about.imascientist.org.uk/student-impact)

**Student 1:** Do you think it's easy or hard to work with animals and why?

**Sarah (scientist):** It's usually a mixture of both easy and hard! It can be hard because they don't always behave or react how you'd expect. There's also an aspect of danger to it - you have to know how not to get hurt or hurt the animal accidentally!

Subject specific questions are great to generate interest in the subject area and build on existing knowledge.

**Student 1:** What is the most exciting possibility in your field at the moment?

**Alvaro (scientist):** The digital twin! To have all information from a factory and build a copy of it in a computer to simulate every possible errors and possible improvements before applying them.

**Student 1:** would be very useful for day to day life planning too!

**Alvaro (scientist):** I think they will start with more critical services (like factories, production plants, etc) but they might soon arrive for common jobs

**Student 1:** Have you learned how cancer is formed?

**James (scientist):** We know a lot about mutations that "can" and "do" lead to cancer. The most exciting new info is that you can have a mutation that likely gives you cancer, then a mutation in another gene that cancels it out. Much harder to find.

**Student 1:** aw that's awesome I hope that cancer will have a cure soon. Do you think we are close to an answer?

**James (scientist):** We are getting very good at making treatments for specific types of cancer (they are all different). It changing many cancers from a terminal disease to one you live with (but won't kill you).

Conversations like this are great to build a rapport between the scientists and students. It encourages students to see scientists as “normal” people with interests and hobbies.

**Student 1:** What's your favourite animal

**Vincent (scientist):** Definitely red panda. I'm essentially one myself

**Student 1** I love red pandas

**Student 1:** Who's the greatest sportsman of all time?

**James (scientist):** Federer! Such a perfect form and a great gentleman and sportsman

**Student 2:** Surely it's Ronaldo but respect your opinion

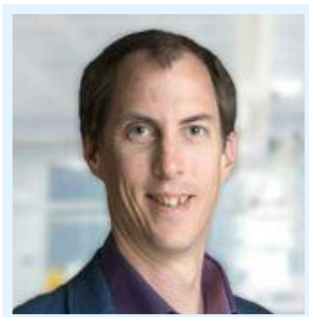
**James (scientist):** He's good alright, but not a great spokesperson.. (i'm not a soccer fan- wrong shaped ball)



## Scientist of the Week

Students voted each week for their favourite scientist to be named Scientist of the Week.

The Scientists of the Week were:



**James Brown**, Lecturer in cell biology and cancer at University of Limerick



**Lyndsey Moore**, PhD student at University College Cork

## Scientist Winner

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

- **Vincent Monchal**, PhD researcher and teacher in Geology at Trinity College Dublin

As Zone winner, they receive €500 to spend on further public engagement projects.



“This experience was also a great way for me to put my specialty into a different perspective and coming back to the roots of why I became a scientist in the first place: just being curious. If I could have alighted that spark of curiosity in any of the students, my mission is already a success”

You can read their full statement at

[aluminium.imascientist.ie/2022/12/06/a-thank-you-from-your-winner-vincent-monchal](https://aluminium.imascientist.ie/2022/12/06/a-thank-you-from-your-winner-vincent-monchal)

## Feedback

My students absolutely loved it. So much chat was generated following it. My class were a little young so I had to type the questions for them, but they really enjoyed it. The scientists they engaged with were so enthusiastic

**Teacher**

This was so fun and a great way to spend a science class!!!

**Student**

Thank you all so much I loved talking to you!!!!

**Student**

I had a great time participating in this initiative and would recommend everybody to participate either as a student or as a scientist. I love doing those kind of events

**Vincent** (scientist)

Thank you all so much for taking the time out of your day to talk with my class - they have absolutely loved it and made me proud with their questioning. Thank you so much.

**Teacher**

Thanks so much everyone - first years here with curious minds and ye kept them engaged for the full time.

**Teacher**

Thanks everyone!!!!!! It was fun talking to you!!!

**Student**