

June to July 2023

The Health Zone (healthj23.imascientist.org.uk) ran from 26 June to 21 July and was funded by the STEM Ambassador Scheme.

Key activity figures

Students logged in	905
Students active	89%
Schools	23
Scientists given access	53
Scientists active	43
Chats booked	46
Chats took place	35
Lines of Chat	16,917
Average lines per Chat	483
Follow up questions asked	318
Follow up questions approved	224
Answers given to follow up questions	1,165
Scientist comments	75
Student comments	12
Votes	615

Who took part?

The Zone featured 53 STEM Ambassadors working as trainee genetic counsellors, bioinformaticians, laboratory analysts, research technicians in hospitals, microbiologists and project engineers to name but a few! They connected with 905 students from across England and Wales. 805 students (89%) actively participated by writing Chat lines and asking follow up questions.

69% of active students were from priority schools: 42% from underserved schools and 35% from widening participation schools.

A total of 615 votes were cast by students. The winning scientist with the most student votes was **Bruno Silvester Lopes**, who studies how bacteria become resistant to antibiotics.

Activity

Chats in this Zone were busy, averaging 22 students per Chat (in comparable zones running in June, the average was 15).

46 Chats were booked, 35 took place. Out of the remaining 11 Chats booked, 10 were cancelled and in 1 the school did not attend and did not give notice.

It is common for students to share login details or computers during Chats. Therefore, the number of students engaged is expected to be higher.

Students asked 318 follow up questions of which 224 were approved and sent to scientists. Duplicate questions (that scientists had already answered) were not sent again, with the student being directed to the previous answer and invited to comment and ask additional questions.

School activity

School	Students logged in	Active users	Chats attended	Chat lines (total)	Chat lines (per user)	Follow up questions approved	Votes
The St Marylebone CofE School, London (WP)	137	124	3	728	6	54	77
Castell Alun High School, Flintshire (U)	82	75	4	940	13	28	75
King's Academy Binfield, Berkshire	76	73	2	1,170	16	34	63
Thornden School, Hampshire	78	72	3	599	8	19	54
Carterton Community College, Oxfordshire (U)	70	61	3	751	12	6	46
Westfield Primary School, Radstock (WP)	52	52	2	810	16	1	27
Kingsmeadow Community Comprehensive School, Tyne and Wear (WP)	36	36	2	383	11	17	32
Lancaster Girls' Grammar School, Lancashire	54	36	1	254	7	5	32
Summerhill School, West Midlands (U)	30	29	1	228	8	4	21
John F Kennedy Catholic School, Hertfordshire (U)	41	28	1	202	7	2	24
Shirenewton Junior School, Monmouthshire	27	27	1	417	15	21	14
Woodhouse Academy, Staffordshire (U)	27	27	1	308	11	1	27
Darrick Wood School, Kent	25	24	1	247	10	8	23
Tonyrefail Community School, Taff (U)	26	23	1	135	6	9	20
The King's Academy, Middlesbrough (WP/U)	20	20	1	327	16	1	19
Sandymoor Ormiston Academy, Cheshire (WP/U)	20	20	1	205	10	2	18
St Bartholomew's School, Berkshire (U)	21	17	1	157	9	3	11
Furness Academy, Cumbria (WP/U)	30	15	1	137	9	0	3
Fullbrook School, Surrey	11	10	1	169	17	1	5
Manor Drive Secondary Academy, Cambridgeshire (U)	13	10	1	97	10	1	3
The John Wallis Church of England Academy, Kent (WP/U)	10	9	1	101	11	0	9

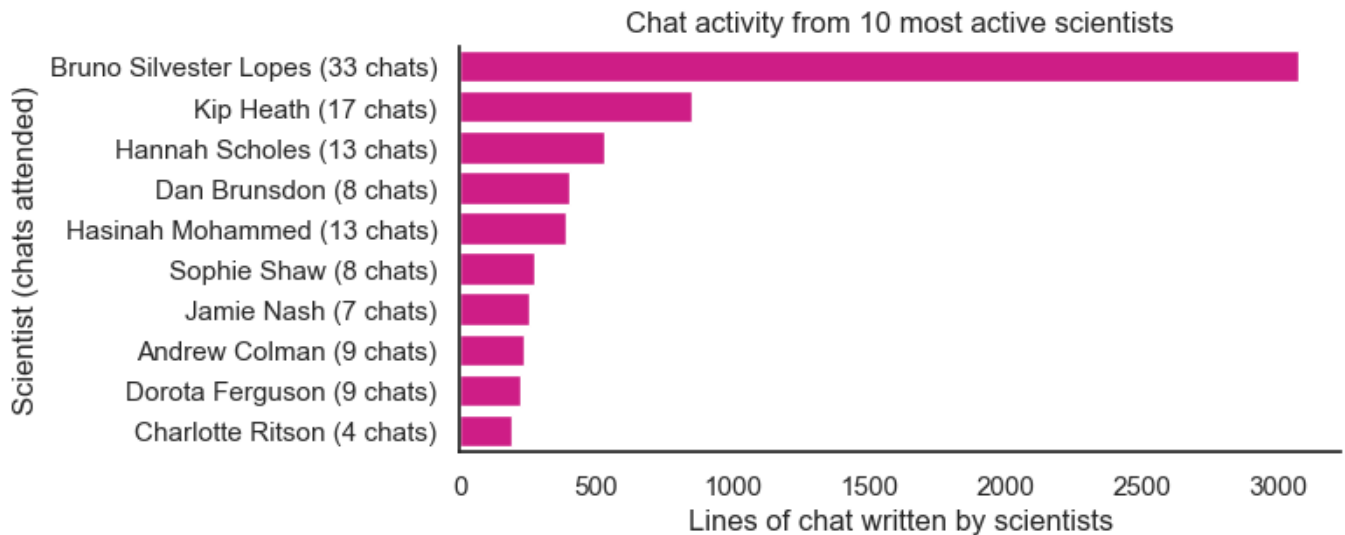
Funded by:

School	Students logged in	Active users	Chats attended	Chat lines (total)	Chat lines (per user)	Follow up questions approved	Votes
Colne Community School and College, Essex	10	9	1	91	10	4	7
Paulet High School, Staffordshire (WP/U)	8	8	1	94	12	3	5

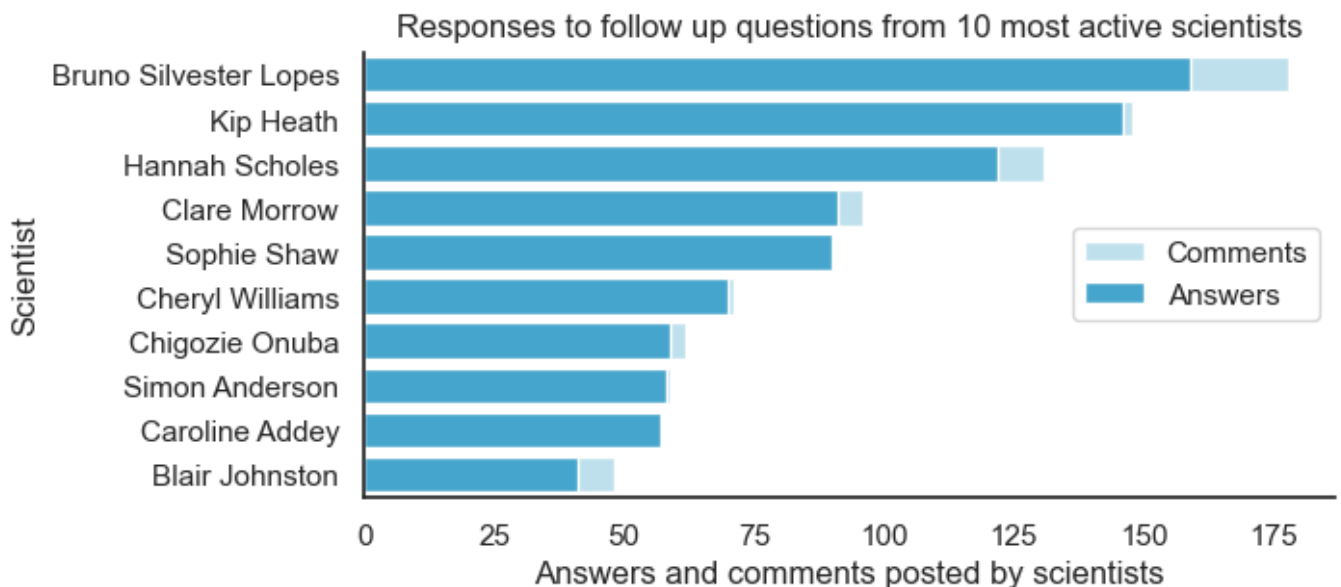
We want to increase the participation of under-represented groups. Find out what we mean by under-served (U) and widening participation (WP) schools, and how you can support us in working with more of these: about.imascientist.org.uk/under-served-and-wp

Scientist activity

During the Zone the scientists interacted with students by writing 8,299 lines of Chat, and providing 1,165 answers to 224 follow up questions. On average, 6 scientists took part in each Chat.



The scientists shown wrote 77% of the lines of chat in the zone. The average scientist attended 5 chats, and wrote 198 lines.



The scientists shown posted 77% of the answers, and 63% of the comments in the zone. The average scientist posted 28 answers, and 2 comments.

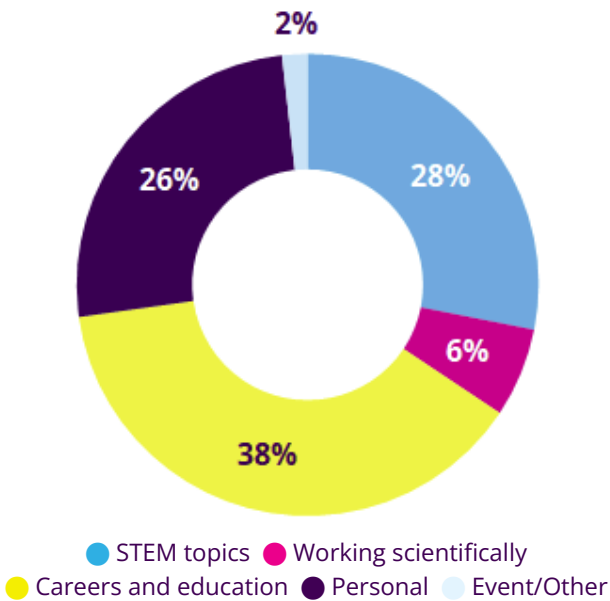
Chats

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



Follow up questions

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.



- How do cancer cells form?
- Do humans give off radiation?
- How can bacteria benefit the future?
- Are ethics involved in your job? How so?
- How do you divide your time between work, family and other things?
- Have you won an award or prize for your work?
- Do you think you could work better in a different position?
- Do you like snails?

Examples of good engagement

The Chats provided many examples of great engagement. Questions about science display an interest in Scientific Literacy.

Student 1: What sicknesses can be treated with radiation?

Dorota (scientist): There are a lot of sicknesses and diseases that can be treated with radiation, most of them are cancers. However, there are also types of blood diseases that can be treated with radioactive material and some patients receive radioactive treatment for pain relief.

An important part of the Science Capital Teaching Approach is personalising science to the individual. Holding your breath may not appear on the curriculum, but it was important to at least one student.

Student 2: Why can't we hold our breath forever underwater?

Hannah (scientist): The cells in your body keep producing carbon dioxide as they produce energy through respiration. It builds up in your body and turns your blood very slightly acidic. Your body will keep making you want to breathe to get rid of it and balance out the pH in your blood. :)

Student 2: Thank you, I have been wondering for a long time!

Hannah (scientist): Ah, you're welcome. Hopefully that made sense?

The challenges faced by scientists is a common theme of interest. The answers give students an authentic and meaningful insight into the world of work and higher education.

Student 3: What was the hardest thing to overcome whilst training to be a scientist

Kip (scientist): Time! I did a degree apprenticeship so I worked 4 days a week, went to university one day a week and needed some free time too

Jamie (scientist): Hmm for me i guess it would be studying modules i did not like as i had to cover genetics, which for me wasn't my interest but you still have to pass it

Caroline (scientist): I didn't like all the subjects I did for my degree, but had to do them

Hasinah (scientist): Making a decision for your job. Its hard to choose what you want to do when you want to learn and try everything!

Bruno (scientist): disappointments

The answers from scientists show students that science is a developing field with many varying viewpoints rather than a fixed set of facts and theories.

Student 4: Do you think there is a possible cure for cancer?

Bruno (scientist): It will take many years. I also work on the bacterium that cause cancer... so possibility one day I will find a cure for stomach cancer

Sophie (scientist): Cancer is pretty complicated as it's caused by lots of different things. I think early detection and treatment are the most important things

Hannah (scientist): It would be amazing if there are lots of people working on it and just as scientists find something that works, cancer cells find a way to get around it. It's a really complicated thing but early detection and treatment are key

Scientists of the week

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

The scientists of the week were:



Bruno Silvester Lopes, who studies how bacteria become resistant to antibiotics



Dawn Sutherland, who makes different blood components for use in hospitals

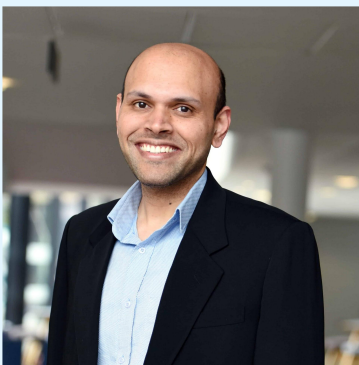


Andrew Coleman, a doctor and engineer specialising in patient safety

Winning scientist

The overall winner, with the most votes at the end of the Zone was **Bruno Silvester Lopes**, who studies how bacteria become resistant to antibiotics

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



"It is an absolute privilege and honour to be chosen from 44 other scientists in the 'Health Zone' category. Thank you all very much for voting for me as your winner.

My prize is dedicated to all the amazing teachers that work incredibly hard to help you succeed. Their hard work with all the lesson planning and catering for the needs of all, work over the weekends at times may go unnoticed. I hope you all can appreciate their dedication. [...] The questions that you all asked were great and I hope that me along with other fellow scientists were able to provide you with some great answers"

You can read their full statement [here](#)

Feedback

"I'd just like to say a huge thank you to everyone involved today. There has definitely been a 'buzz' in the classroom and the students have definitely enjoyed it"

Teacher

"Thank you for replying to all our chats. Hope you enjoyed it too!"

Student

"Thanks everyone, goodbye. Have a good day!!!"

Student

"I've only done a few chats but really enjoyed it!"

Dawn (scientist)

"Thank you all for your time and fabulous answers. A great way to end the school year!"

Teacher

"Thank you so much for your time today and all of your answers - you've all been amazing and the buzz in the classroom has been fabulous. We hope you have a lovely summer! We're going to log off now. Thank you!!"

Teacher

"Thank you all so much, you've been amazing"

Student

"This was technically my first public engagement as a STEM ambassador! I enjoyed it, especially being student-led and virtual platform"

Scientist

"It was my first experience in a text-only framework. I feel like it enables the students to ask more questions in a more comfortable setting. I got asked questions I probably would not have gotten in a face-to-face event"

Scientist