
Sonal


Rosanna


Matt


Marleen


Dan


Atreya

March, 2019

The Imaging Zone was a themed zone supported by the Science & Technology Facilities Council. There were six scientists in the zone:

- Sonal Bhadane, a clinical expert in a company that makes radiation therapy machines and that works with STFC.
- Zone winner Rosanna Tilbrook is an STFC-funded PhD student at the University of Leicester and is looking for new planets in the Next Generation Transit Survey.
- Matthew Selwood, who is studying for an STFC-funded PhD making a new camera that can see through walls, detect contraband and see inside nuclear explosions.
- Marleen Wilde, a medical technical assistant and part time PhD student at the University of Reading who does experiments at STFC facilities.
- Dan Porter, who works at Diamond Light Source as a beamline scientist.
- Atreya Acharyya, who uses data from NASA satellites to make predictions for new telescopes funded by STFC in Chile.

The Imaging Zone was one of the busier zones this March, with 505 students logging into the zone, 93% of which were active in ASK, CHAT or VOTE.

Key figures from the Imaging Zone and the averages of the March zones

PAGE VIEWS	IMAGING ZONE	MAR '19 ZONES AVERAGE
Total zone	13,725	15,399
ASK page	1,050	1,114
CHAT page	1,615	1,291
VOTE page	1,657	1,327

	IMAGING ZONE	MAR '19 ZONES AVERAGE	IAS 2012-19 AVERAGE
Imaging Zone Schools	9	8	10
Students logged in	505	388	391
% of students active in ASK, CHAT or VOTE	93%	92%	86%
Questions asked	388	443	675
Questions approved	200	216	297
Answers given	267	437	532
Comments	18	29	71
Votes	358	312	308
Live chats	23	19	16
Lines of live chat	7,570	6,732	5,711
Average lines per live chat	329	352	358

Popular topics

The Imaging Zone kept very on topic, with students interested in the scientists' work and in the equipment they use, asking questions about cameras, lasers and so on.

There were a lot of questions relating to space with students asking scientists, Rosanna and Atreya in particular, questions about the size of the universe and planets.

Students were also interested in the use of imaging with cancer treatment.


Sonal


Rosanna

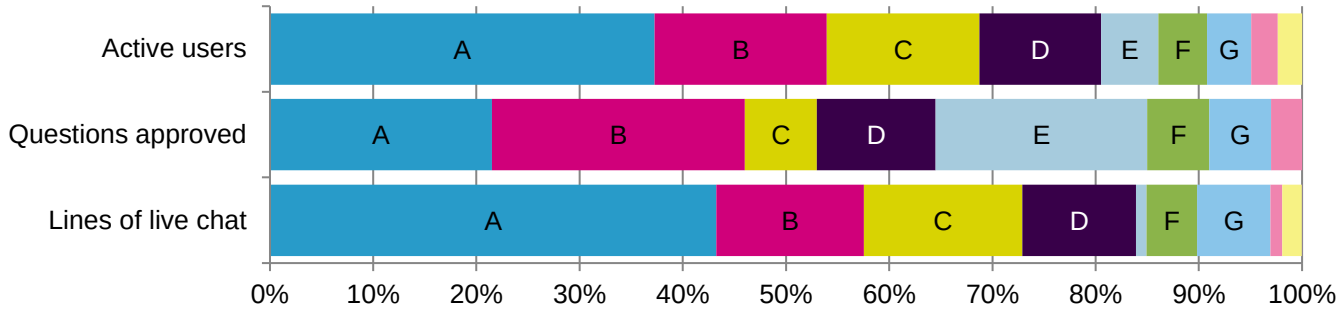

Matt


Marleen


Dan


Atreya

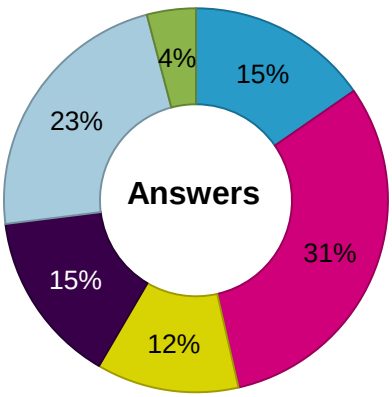
School data at a glance

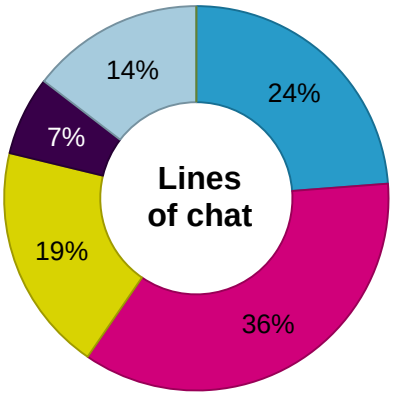


	School	Year/s	Classes
A	St Benedict's Catholic College, Colchester	Y9	7
B	Dartford Science & Technology College, Dartford	Y9	6
C	Silverdale School, Sheffield	Y7	1
D	Walton Girls' High School & Sixth Form, Grantham, U	Y10, Y12	2
E	All Saints Catholic High School, Knowsley, WP	Y7, Y9, Y11	3
F	Hammersmith Academy, London, WP	Y9, Y10	2
G	All Hallows Catholic High School, Preston	Y8	1
H	St Gregory the Great Catholic School, Oxford, WP	Y12	1
I	Berkshire College of Agriculture, Maidenhead	Y13	1

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

Scientist activity



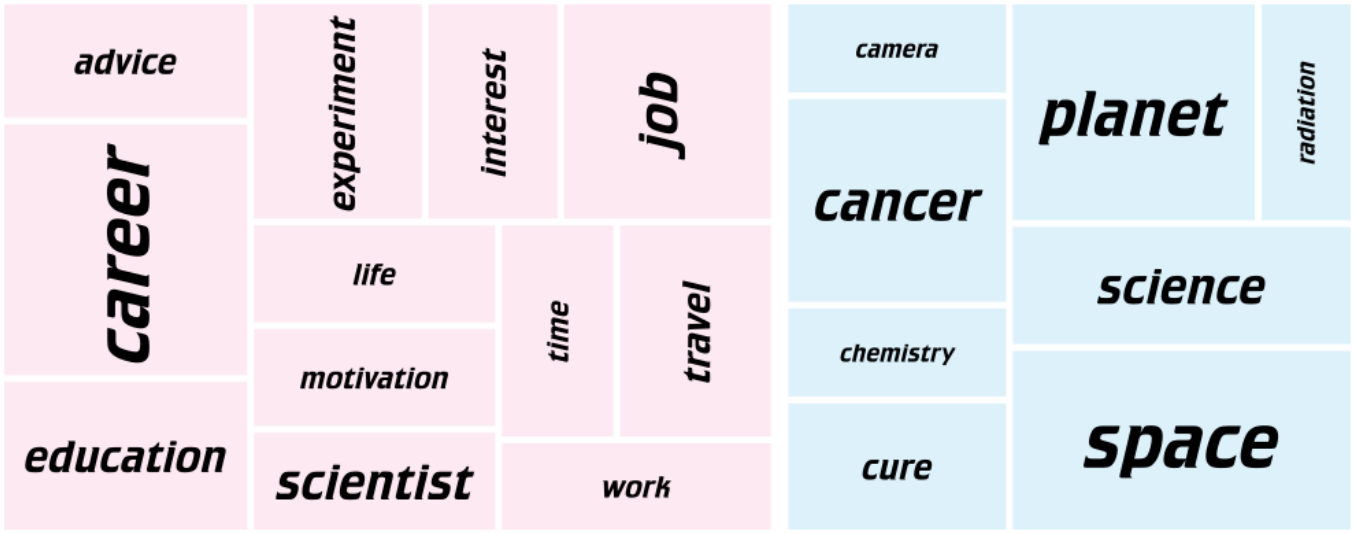


SCIENTIST	PROFILE VIEWS	POSITION
Rosanna Tilbrook	654	Winner
Matthew Selwood	489	2nd
Dan Porter	455	3rd
Sonal Bhadne	475	4th
Marleen Wilde	298	5th
Atreya Acharywa	269	6th

Sonal Rosanna Matt Marleen Dan Atreya

Top Keywords of questions approved in the Zone

Area represents frequency of use



Question themes and example questions in the Zone

Find out about how we've coded the questions at about.imascientist.org.uk/what-do-students-ask-about/

If there was a parallel universe and you could change something what would it be?

Why is Radiation used to treat cancer if it can cause cancer?

Could there be a way to see the internal organs of an embryo/baby whilst it is in the mother's stomach?

What would be your ideal working environment?

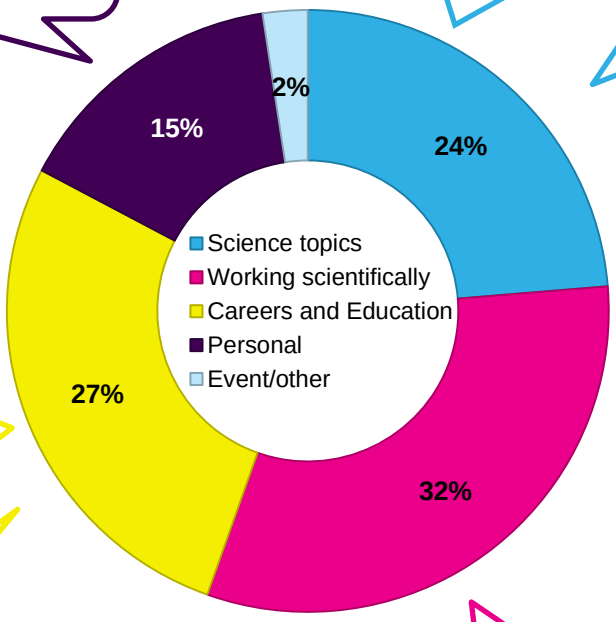
What is a beamline scientists? What would shining a light on a magnet actually do ?

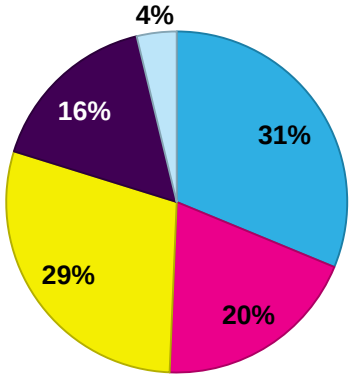
i would like to have a career in science. what is the best advice for a 15 year old?

How did you revise for your A levels?

How do you see inside a nuclear explosion and what does it look like?

How much would your plans cost altogether ?





Historic Per-Zone Average (Themed Zones)

MangorollaCIC 01225 326892 | amy@mangorol.la

Science & Technology Facilities Council | UK Research and Innovation


Sonal


Rosanna


Matt


Marleen


Dan


Atreya

Chat

Frequent words used in live chats by students and scientists. Size of the word represents its popularity

Examples of good engagement

Students were very interested in Rosanna's PhD research, and often asked questions about space, astronomy, and her personal reasons for pursing astrophysics:

> *"How long have you been interested in planets and galaxies?" –* ***Student 1***
>
> *"I've always found space super crazy, so I couldn't pinpoint exactly when my interest started!" –* ***Rosanna, Scientist***
>
> *"How can you tell there are no other planets in the galaxy?"–* ***Student 2***
>
> ***"****There are other planets in the galaxy – billions in fact!"* ***– Rosanna, Scientist***
>
> *"Do you believe in life on other planets?" –* ***Student 3***
>
> *"Yep, I do, and I think most astrobiologists (people who study space biology) agree!"*
>
> *"Do any of those planets have life or a name?" –* ***Student 2***
>
> *"We're not sure what this life would look like however. They could just be microbes, or plants, or something else small. I've explaned a bit more about why we think there's other life out there in more detail on my page!" –* ***Rosanna, Scientist***

In the evening chat, students had a long conversation with scientists Matthew and Dan:

> *"You know when you said your new camera can see through walls? The may sound stupid but is it like an X-ray machine?" –* ***Student 1***

"That is not stupid at all – that is exactly what it is like! Just, a little bigger, with far more powerful x-rays to be able to look through thicker things than a suitcase" – ***Matthew, Scientist***

"What is the purpose that you want to make it for?" – ***Student 1***

"I have designed it to look inside of a nuclear fusion reaction, to help them figure out why it isn't behaving like we want it to. The Government have asked me about it for sea ports, to essentially use like an x-ray machine to scan cargo containers." – ***Matthew, Scientist***

"You know with phones and stuff? They used to be really big with antennas and stuff, so do you think you would be able to make it smaller once you've finished the first version?" – ***Student 1***

"You know your stuff! Yes, it is possible. Currently, it is the camera "flash" that is the biggest and clunkyest part, with the laser work. In the future, if a different clever cloggs makes more laser breakthroughs, it is possible!" - ***Matthew, Scientist***

"Would you be able to make it portable?" – ***Student 2***

"Right now? No. Laser technology to make the power and specifications I need are about the size of an Olympic swimming pool! With better lasers, it could be done though" - ***Matthew, Scientist***

"X-ray machine are definitely getting smaller, some of the x-ray machines you can buy for a lab, about the size of a fridge used to be only available at huge labs the size of stadiums" – ***Dan, Scientist***

"That is actually so cool! You said about the nuclear fusion reaction? Aren't there discussions about people making nuclear power stations. Would your invention help with that?" – ***Student 1***

"Yes, it would be for a fusion power station instead of a fission one. How much do you know about how fusion power works?" - ***Dan, Scientist***

Scientist winner: Rosanna Tilbrook

Rosanna's plans for the prize money: "*I want to hold a Women in Space event, aimed at high school and A level students where pupils can interact with and learn from women who have chosen career paths in science… "*

Read Rosanna's **thank you message.**

Student winner: science_qween.alyssa27

science_qween.alyssa27 from Walton Girls' High School was nominated by scientists for their "amazing questions not just technical but more philosophical" in their live chat. Their questions in ASK included: "Where do you see yourself in 10 years if your reseach gets published?" and "i love science but i dont think im very good to be fair, any tips for being determined and finding research to work on?"

As the student winner, science_qween.alyssa27 will receive a certificate and a gift voucher.


Sonal


Rosanna


Matt


Marleen


Dan


Atreya

Feedback

We're still collecting feedback from teachers, students and scientists but here are a few of the comments made about the Imaging Zone…

I have learnt that science can provide many different job pathways and experiences. - **Student**

The event was really good fun and some very thought provoking, strange and insightful questions from many of the students! – **Dan, scientist**

And here are a few made about the March *I'm a Scientist* activity:

It was fab! The children were engaged, there was a buzz around the room! What a pleasure to witness and inspire them! – **Teacher**

[I have learnt] a lot really about the level I should keep in a conversation to keep interest and how to give students little snippets of info so they do become curious... a crash course in communication really.

And I think I just became passionate about them, who they are what they think, what interests them **– Silvia, scientist**

[I have learnt] scientists are normal people aswell not just nerds – **Student**

I sign up every term as it is a great addition to help students engage with science. It also ticks an Ofsted box of helping disadvantaged students to relate what happens in the classroom to the real world. – **Teacher**

Thank you very much for answering all of our questions. we have learnt a lot today and we really appreciate it because it has truly inspired us to follow our dreams and not worry about all the bumps in the way – **Student**

love the live chats! It gives students the chance to ask anything and they really do! I have grown so much through my participation in this event! Thank You! – **Scientist**