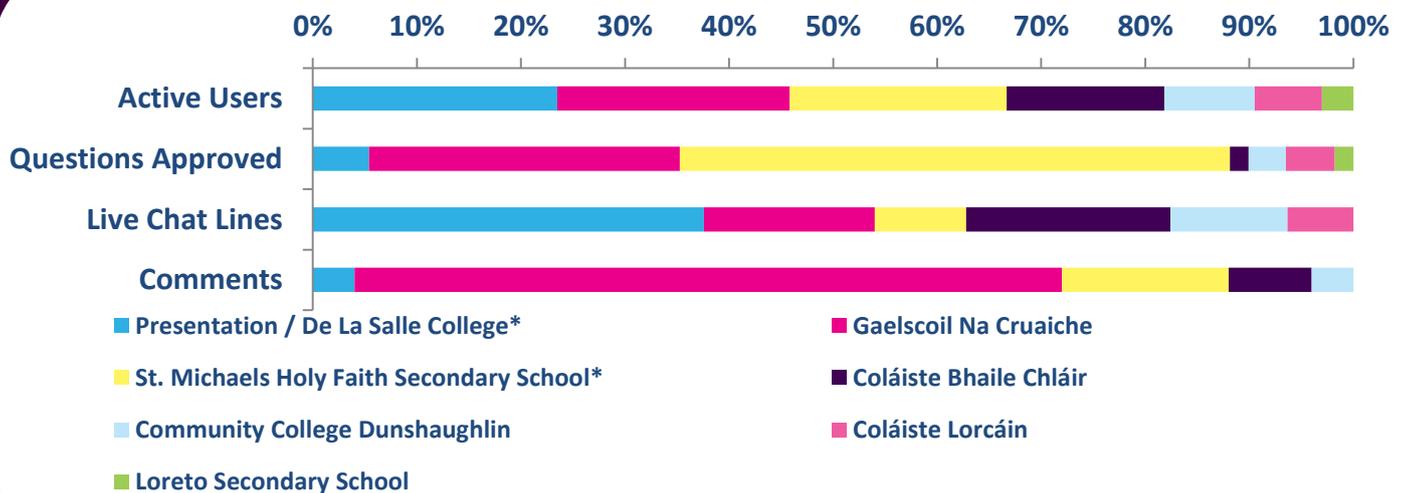


November 2016

The Mutation Zone was a themed zone funded by Wellcome. Thomas is responsible for regulating the use of GMOs in laboratories and for clinical trials, Sinead is an analytical science lecturer and cancer researcher and Sebastian, who was the winner in this zone, is a researcher trying to find out why some animals can heal and regrow their bodies after an injury better than we can. Monica works in a teaching hospital working out which bacteria or virus has caused an infection and Emma is a PhD student looking at whether someone with tuberculosis has developed mutations making them immune to treatment.

Much of the zone was on topic with students asking lots of thoughtful questions, and scientists providing detailed answers. There was a lower percentage of active students than in the other zones in this event, as some students were unable to take part due to the Association of Secondary Teachers in Ireland strike action at their schools during the first week of the event.

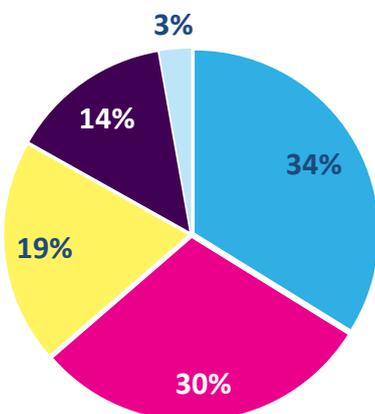
School data at a glance



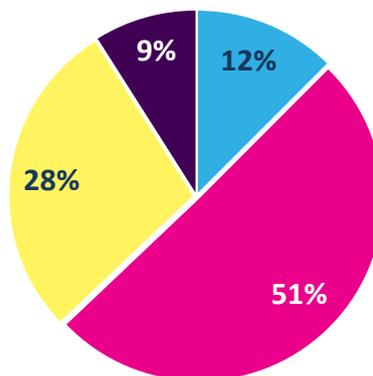
* Widening participation schools, as defined at <http://about.imascientist.ie/widening-participation/>

Scientist activity

Answers



Lines of Live Chat



Scientist	Profile views	Position
Sebastian Gornik	630	Winner
Sinead Loughran	610	2nd
Emma Roycroft	379	3rd
Thomas McLoughlin	417	4th
Monica Flaherty	313	5th

Key figures from the Mutation Zone and the averages of the November zones

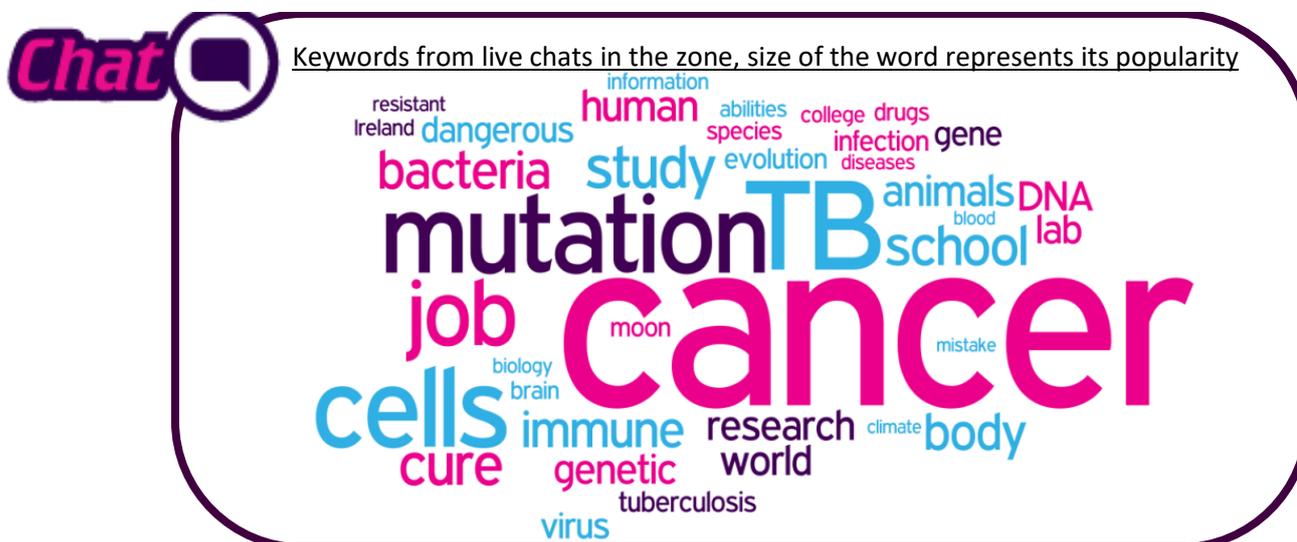
PAGE VIEWS	MUTATION ZONE	NOV '16 ZONES AVERAGE
Total zone	14,163	18,646
ASK page	1,158	1,758
CHAT page	1,190	1,587
VOTE page	999	1,396

	MUTATION ZONE	NOV '16 ZONES AVERAGE	IAS IRELAND 2012-16 AVERAGE
Schools	8	9	10
Students logged in	364	400	366
% of students active in ASK, CHAT or VOTE	73%	83%	84%
Questions asked	444	656	584
Questions approved	278	305	264
Answers given	434	462	488
Comments	56	75	66
Votes	227	311	288
Live chats	12	15	15
Lines of live chat	2,564	4,501	4,070
Average lines per live chat	214	292	273

Popular topics

Sinead's work as a cancer researcher sparked a lot of conversation about the disease, with students wanting to know about potential cures and the types of experiments she does within her work. There were other questions about diseases including questions about different viruses, why antibiotics can become immune to medication and the risks involved when working with a dangerous virus or bacteria. Lots of students wanted to know about tuberculosis and asked Emma questions ranging from what it is to how it can be treated.

There were some more general questions about mutation, especially within chats, with students wanting to know what mutation means, what animals can mutate and how scientists are using mutations to benefit us, for example. Sebastian's work with jellyfish interested a few students who asked about how they regenerate and whether they are conscious that they are doing so. Students asked all the scientists more general questions about their jobs and research, including what discoveries they had made and whether they feel their work is important.





Keywords of questions approved in the zone, length of bar represents frequency of use

0 5 10 15 20 25



Example Questions (click for links)

“What’s the most dangerous chemical you've worked with?”

“How does it feel to know that you can cure such a terrible disease that effects many people worldwide each day?”

“Can you explain what clinical microbiology is?”

“How many times can a jellyfish regenerate?”

“Can you create TB yourself in a lab and how difficult would it be?”

“Do you think humans can evolve to become immune to diseases?”

“If people didn't pollute the environment or put things on fire would global Warming be a thing?”

“Are you afraid of getting sick if you work with viruses?”

“How did you become a cancer researcher?”

“Is Ireland a good place to develop as a scientist?”

“How do you would make you make a really cool explosion but not too big?”

“How can knowing the mutations that cause a patient's cancer shape treatment?”

“What are some of the most dangerous viruses?”

“Are foods made using biotechnology healthier?”

“Can you create new organisms by modified DNA?”

“How long does it take you to figure out if someone has tuberculosis?”

“Why do antibiotic s not work on viruses?”

Examples of good engagement

Within the ASK section, the scientists were really good at explaining complex topics with language students could understand and relate to. They would often leave comments on questions for the other scientists, adding additional information to the previous answers creating more discussion. Sinead would also include videos and links within her answers, which were appreciated by the students.

“How would you save a bit of the Arctic from melting?” – Student

“Stop burning fossil fuels but is easier said than done!” – Thomas, scientist

“I agree with Thomas, we should do all that we can to stop burning fossil fuels and we should try to save energy when and where we can. As a student, you could try to raise awareness of climate change among your friends and family. Check out the climate change info zoo, where you can find out all about climate change through videos, flow charts and interactive games

<http://www.sciencemuseum.org.uk/ClimateChanging/ClimateScienceInfoZone>” – Sinead, scientist

“Thomas and Sinead basically said it already! We need to stop burn fossil fuels and wasting energy. We also have to be more aware of the environment and understand that the environment itself does not care about climate change ...Most people do not understand that we are actually endangering our own life and habitat more so then anything else. So be aware of what the consequences of your actions are, especially for future generations. Sorry for the bleak response, but we really have to act now!” – Sebastian, scientist

“Thank you, I don’t exactly what fossil fuels are!” – Student

“Gas and coal are fossil fuels that we burn for energy. Hope that helps.” – Sinead, scientist

Scientist winner: Sebastian Gornik

Sebastian’s plans for the prize money: *“Create an outreach program for local Galway schools to learn about the diversity of very very tiny and small life in the oceans – alga and other single celled organisms.”*

Read Sebastian’s [thank you message](#).



Student winner: 528mutg28

For great engagement during the event, this student will receive a gift voucher and a certificate.

Feedback

We’re still collecting feedback from teachers, students and scientists but here are a few of the comments made during the event...

“I usually don’t want to be a scientist when I’m older but every science week i get inspirations” – Student
The students took part in I’m a Scientist during their Science Week

“This event made me rethink my interactions with the wider community and I certainly want to try to engage with the public much more now. It was such a great experience.” – Sebastian, scientist