

November 2021

The Genetics Zone (<https://genetics21.imascientist.org.uk/>) ran from 1 to 26 November and was funded by the **Wellcome Centre for Human Genetics** at the University of Oxford.

The Zone featured scientists trying to learn more about genes, the building blocks of life that make us all who we are!

Throughout November, Covid-19 cases in schools remained at an all time high. This meant there was less activity within the Zone than expected.

Key activity figures

	Zone	November 2021 Average
Schools	8	12
Students logged in	428	486
Students active	90%	87%
Scientists	40	31
Questions asked	88	91
Questions approved	60	70
Answers given	370	264
Scientist comments	25	19
Live chats	27	27
Lines of live chat	6,783	7,596
Average lines per live chat	295	288
Votes cast	126	213

Scientists

40 scientists created a profile in the Zone.

You can see who took part at <https://genetics21.imascientist.org.uk/scientists/>

The winning scientist with the most votes from students was **Rafael Galupa**, Postdoctoral Researcher at EMBL.

Students

428 students from 8 schools across the UK logged into the Zone.

87% of active students were from target schools: 70% from underserved schools and 30% from widening participation schools.

Live chats

27 live chats took place during the activity: 23 were school classes booked by teachers and 4 were additional chats, open to all the students.

An additional 5 live chats were booked: 4 were cancelled and in one the school was unable to attend without cancelling.

There was one live chat where teachers asked questions on behalf of their students. It is also common for students to share login details or computers during live chats. Therefore, the number of students reached will be higher.

School activity

Students from 8 schools across the UK participated in the Zone. In addition to live chats booked by teachers, there were 4 Thursday evening chats scheduled for the students and their families.

School	WP/U status	Active users	Chats attended	Chat lines (total)	Chat lines (per user)	Questions approved	Votes
Co-op Academy Manchester, Manchester	WP	213	12	2,664	13	22	46
Robert May's School, Hook	U	66	3	799	12	25	0
The Manor Academy, Mansfield	WP/U	53	2	241	5	3	22
Wymondham High Academy, Wymondham	-	25	1	294	12	5	22
The Norton Knatchbull School, Ashford	U	15	2	60	4	0	8
Hills Road Sixth Form College, Cambridge	-	14	1	78	14	4	8
Wigan and Leigh College, Wigan	-	4	1	32	8	1	1
Whitburn Academy, West Lothian*	WP	1	1	30	30	0	0

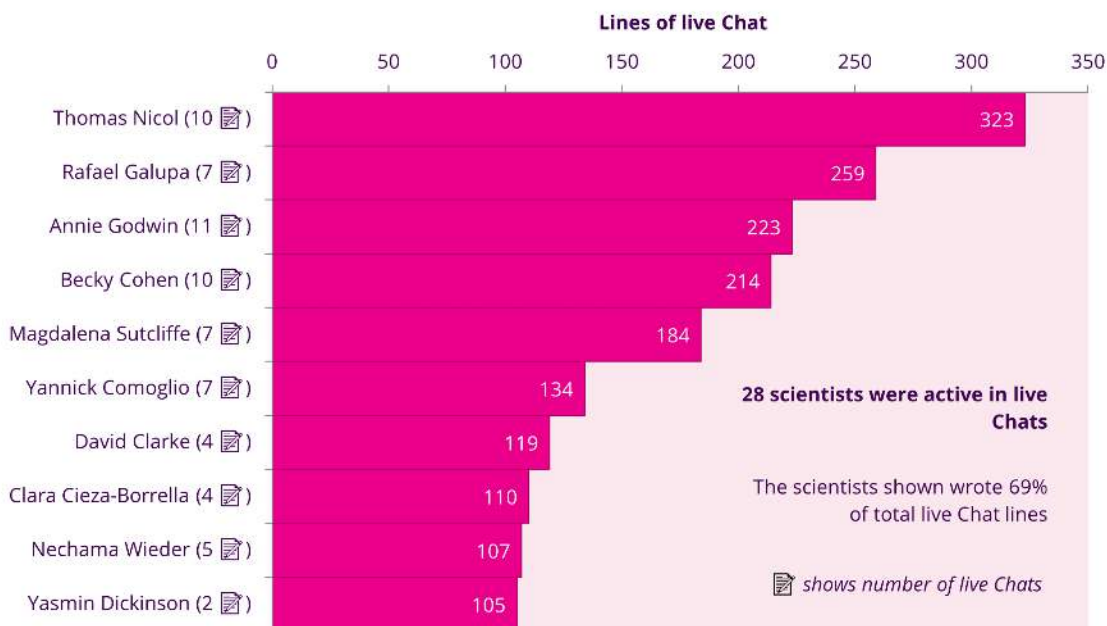
* In these chats teachers typed questions on behalf of their students, with the chat displayed on a screen.

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

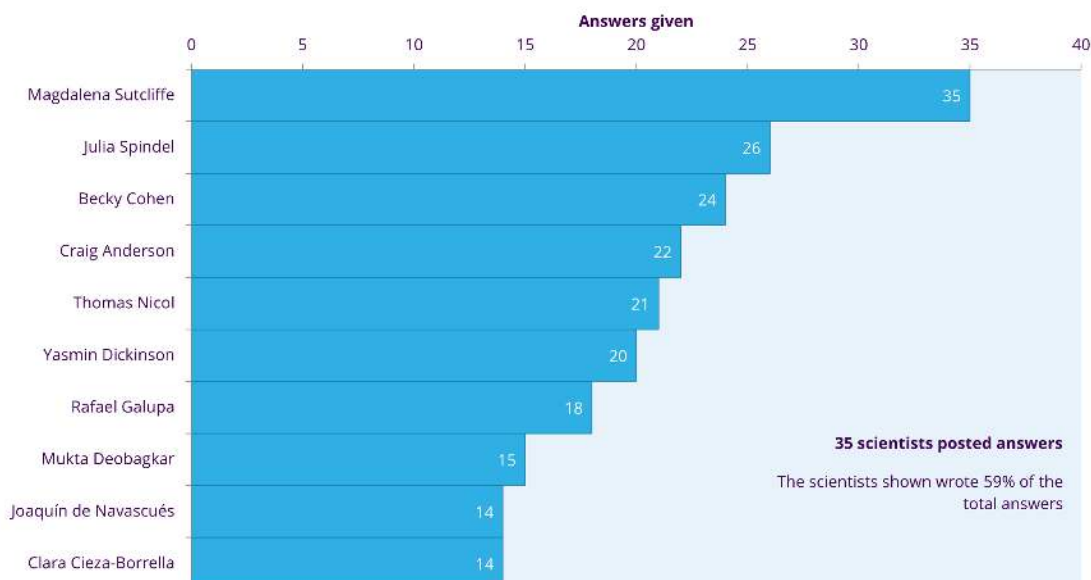
Scientist activity

During the Zone the scientists interacted with students by writing 2,582 lines of live chat, and providing 370 answers to 60 posted questions. On average, 3 scientists attended each live chat.

10 most active scientists in live Chats



10 most active scientists in posting answers



Topic	Percentage
Science topics	16%
Working scientifically	9%
Careers and Education	49%
Personal	24%
Event/other	2%

What would you do if you weren't a scientist?

Good engagement

Being able to see how science is relevant to everyday life and how certain knowledge or science can be utilised is an important part of Science Capital.

Student 1: How does coronavirus affect us? Does it infect our cells?

Holly (scientist): Yes! It is a virus that likes to attach and get inside our cells, where it then makes copies of itself and releases to go and infect other cells

Student 1: Oh, so over time it spreads around our cells in the body?

Holly (scientist): Exactly, but only cells that are infect-able, they need to have a special protein on the surface of the cell that the virus can recognise and attach to.

Student 2: What is the name of that special protein?

Isabelle (scientist): It's called the ACE2 receptor protein

Holly (scientist): For SARS-CoV-2 yep! Other coronaviruses (there are 7 known to infect humans, some of them cause what we call "a cold") use different receptors.

Subject specific questions can help generate interest and knowledge about the scientific field.

Student 1: Can you explain what recessive and dominant mean in detail?

Matthew (scientist): Most of our cells have two copies of each chromosome, one from our mum and one from our dad, so we have two copies of each gene. Certain physical traits are determined by only one gene (monogenic traits) or a small number of genes.

In cases such as these one gene tends to be dominant over the other (it will cause the trait it encodes to be expressed). So if you have one copy of the dominant gene and one of the recessive, then the trait of the dominant gene will be expressed. The recessive gene will only be expressed if you have two copies of it.

Information on the scientists careers can provide insight into how variable careers can be and what students may need to do to get there.

Student 1: What qualifications did you need to pursue your career?

Dapeng (scientist): Basically, you will need a bachelor's degree or master's degree and if you want to perform or lead independent research, you will need a PhD degree.

Student 1: What's the best piece of advice you can give us?

Thomas (scientist): Get as much experience of different fields as you are considering as you can. Try and go to some labs, or spend some time with professionals in your chosen fields.

Student 1: Should I contact professionals that can help me gain work experience as I think it's quite hard now?

Thomas (scientist): You are in Cambridge right? I would reach out to some labs in the area and see if they will let you visit for a day or two. Experiencing a lab and the environment first hand is really helpful.

Clara (scientist): Perhaps try to look for Summer Schools or work experience that allow you to test the water?

Annie (scientist): I would support this - don't be afraid to contact people. I frequently take on local students that contact me for short placements

Connecting with scientists over shared interest and learning that they are "regular people" can help students relate to them. This makes it easier for students to see themselves in science-related careers.

Student 1: What breed is your dog?

Annie (scientist): She is a German Shepherd x Border Collie and she is gorgeous (I am a little biased!) - Do you have dogs?

Student 1: I have a chihuahua cross jack russell

Annie (scientist): Awww :)

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:



Yasmin Dickinson, AstraZeneca PhD Student



Annie Godwin, Senior Research Associate, Faculty of Science & Health

Scientist winner

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

- **Rafael Galupa**, Postdoctoral Researcher at EMBL

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



"It's really a privilege to be able to interact with students in such a first-hand format, they make us stop and think, sometimes even reevaluate how we thought about certain things. I really enjoyed the many chats – they were a bit like an adrenaline experience, always intense but fun. Thank you again, I'm very honoured!"

You can read their full statement at <https://ias.im/442.358>

Feedback

I know many of the students thoroughly enjoyed the experience and some of the questions were brilliant! The answers for the scientists were brilliant and in many cases really got the students thinking, which was great to hear!

Teacher

Thank you so much.

This was an amazing opportunity

Student

Seems like we are coming to an end. It has been a pleasure to speak with you all. Good luck for your careers in science!

Thomas (scientist)



the.cardiac.scientist
@YasDickinson

So happy to have been voted 'Best Scientist' this week by students on the online programme "I'm A Scientist Get Me Out Of Here"
[@imascientist](#)

Means the world to me that I was able to help the students!



Science
@WyHighScience

Miss Watkins Year 8 students were very lucky today [@WyHighAcademy](#) to have a live online discussion with some geneticists with [@imascientist](#). Fantastic engagement and great questions from our students, thank you to all the scientists involved!

Thank you all very much for your time and interesting insight into your jobs!

Teacher

Thank you so much for chatting with us, you have made it very great

Student