

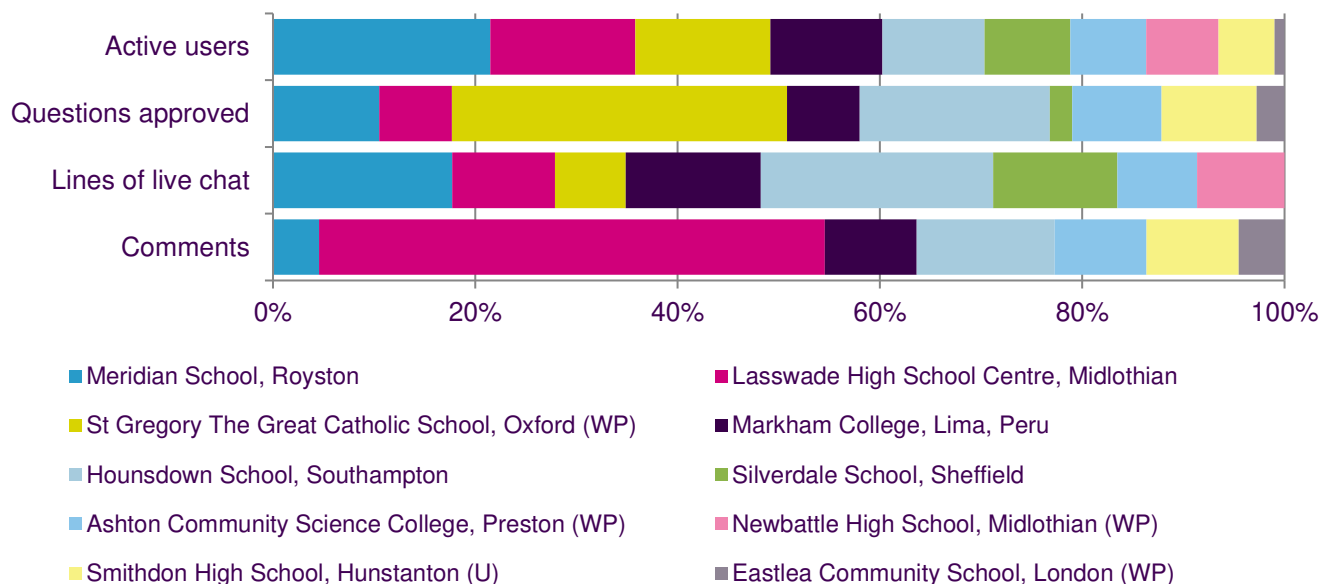
November 2018

The Crystallography Zone was a themed zone supported by the Science & Technology Facilities Council and it featured six scientists:

- William Glass is a PhD student at the University of Oxford where he is using computers to simulate proteins
- Rebecca Roddan is studying for a PhD, looking at an enzyme with the aim of making new drugs
- Martyna Pastok is a Postdoctoral Research Associate working at Newcastle University where she is trying to understand how molecules regulate cell division
- Callum McHugh, the zone winner, is a senior lecturer in chemistry and makes organic crystals to work out what their structure is
- Alice Loasby works at the University of Bristol performing protein purifications, assays and crystal tray setups
- Adam Berlie is an instrument scientist at ISIS Neutron and Muon Source, STFC, and works with muons

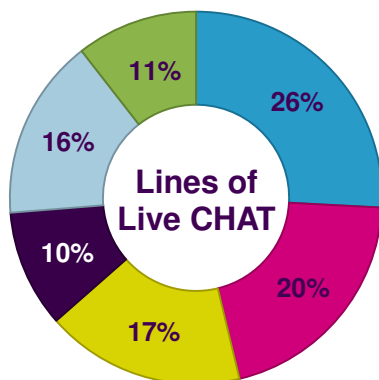
In this zone students asked mainly about career advice, questions to get to know the scientists a little better and more general science topics. Where questions were linked to the zone theme, they were often asking what crystallography actually was, or questions focused on crystals.

School data at a glance



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
Callum McHugh	457	Winner
William Glass	508	2nd
Adam Berlie	393	3rd
Rebecca Roddan	349	4th
Alice Loasby	312	5th
Martyna Pastok	232	6th

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

PAGE VIEWS	CRYSTALLOGRAPHY ZONE	NOV '18 ZONES AVERAGE
Total zone	13,986	18,272
ASK page	942	1,482
CHAT page	1,067	1,443
VOTE page	548	742

	CRYSTALLOGRAPHY ZONE	NOV '18 ZONES AVERAGE	IAS 2012-18 AVERAGE
Crystallography Zone Schools	10	10	10
Students logged in	400	471	391
% of students active in ASK, CHAT or VOTE	77%	87%	86%
Questions asked	447	711	690
Questions approved	181	337	302
Answers given	428	585	539
Comments	45	57	74
Votes	272	378	307
Live chats	15	21	16
Lines of live chat	5,421	8,300	5,642
Average lines per live chat	361	395	358

Popular topics

Most students did not know what crystallography was, so questions that were about the zone's theme were asking about the process, crystallisation and crystals themselves.

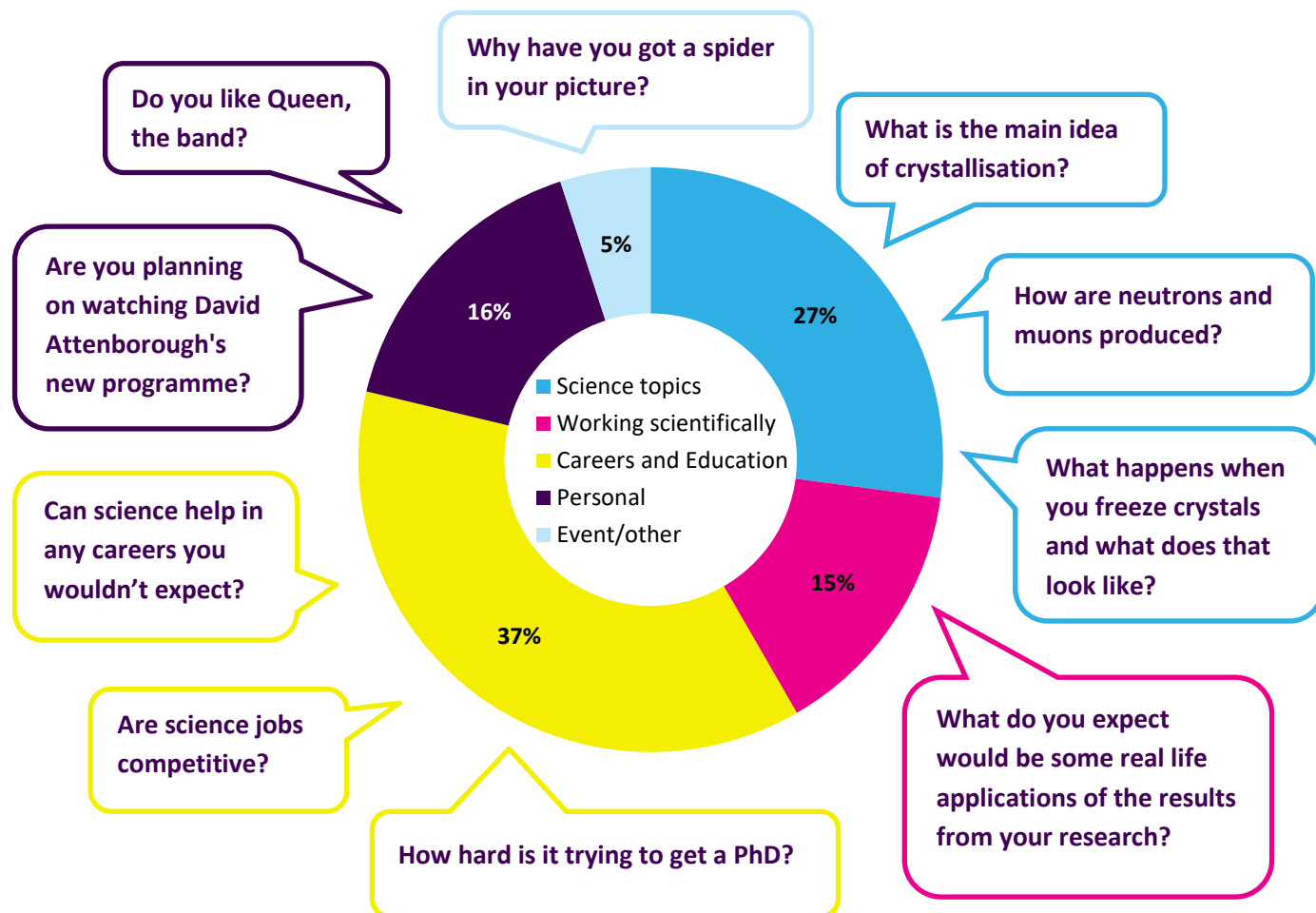
A lot of the questions were on more general science topics, with 'chemistry' a regular keyword in both ASK and CHAT. This was often used in questions such as "What job would you prefer – chemistry or something handy?" or "what is your favourite subject in science; out of biology, physics and chemistry?"

Students also asked the scientists for career and education advice. They wanted to know about the scientists' hobbies and personal interests too.

Out of the scientists' specific fields, students were most interested in Adam's work with muons. They regularly asked "what is a muon instrument scientist?" and followed with things like "how do you produce muons?"

Question themes and example questions in the Zone

Find out about how we've coded the questions at about.imascientist.org.uk/student-question-coding



Examples of good engagement

Students asked open questions about crystallography, often admitting they didn't know what the process was. One student noticed a similarity between three of the scientists in a live chat, and asked:

"I see you all do things with proteins is that a key part of crystallography?" – Student

"Yes! Crystallography is a technique you use to get the structure of a protein. Once you know the structure, you can learn more about the function of the protein." – Rebecca, scientist

"Depends on whether you are working with them or not! some scientists crystallise small molecules as opposed to proteins" – Alice, scientist

"I use the crystals of proteins that experimentalists get to build my models so it's certainly a large part for me" – Will, scientist

As with all zones this November, sustainability and the environment were important topics on the students' minds. They asked general questions about climate change and global warming, but also wanted to know about the scientists' personal actions:

"The environment is super important, how do you make your work environmentally friendly?" – Student

"I agree, we really don't have a good system in place for recycling most of our contaminated plastics, I think this needs to change" – Alice, scientist

“Thnx Alice, i think David Attenborough is a massive influence to help with plastic pollution (blue planet 2)” – Student

“Big fan of david attenborough. Did you know scientists discovered an enzyme in japan in a recycling plant that can degrade plastics! Amazing that nature found part of a solution to our problem” – Alice, scientist

“Alice - that is amazing !! I think that it would be an option for one of my career paths !!” – Student



Scientist winner: *Callum McHugh*

Callum’s plans for the prize money: *“develop new technologies that would bring chemistry and specifically crystallography to life for young people.”*

Read Callum’s [thank you message](#).

Student winner: *652cryp32*

For great engagement during the activity, 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 about the Crystallography Zone...

My pupils loved taking part! They were really engaged and were talking about it for lessons afterwards! – **Teacher**

This is super cool. Thanks for your speedy responses.

I’d love it if you win. I think you shall spend some of the money to buy soft toy particles. I didn’t even know those particles existed up to when I read your profile. – **Student, to Adam**

Participating in *I’m a Scientist* has really been a privilege and something that I would heartily recommend to anyone who wanted to take the plunge. As scientists we have a duty to talk about what we do and make our work accessible to everyone. What better an outcome in this process, than to inspire the next generation of scientists! – **Callum, zone winner**

Feedback

Here are a few of the comments made about November's *I'm a Scientist* activity...

The students were actually cheering when the first scientist answered a question. It was a fantastic moment. – **Teacher**

I have learnt about other scientists' lives and that even if they are scientists they have the same life as us. – **Student**

The whole event probably involved more students from a wider variety of backgrounds than any single real-life event. – **Scientist**

I have learnt that many scientists did not have any clue as to what they wanted to be when they left school. – **Student**

I would like to say thank you. Friday when our children went on the live chat, there was so much excitement with the children when they saw the scientist replying. The buzz they got from it was fantastic. It is a long time since I've seen children buzzing from science. – **Teacher**

I have learned that science isn't just sitting with some test tubes pouring them into a big pot and that they are real, rather interesting jobs that I could consider going into. – **Student**