



Philip



Maxime



Jake



Annette



Ann



Amy Heather



November 2019

The Water Zone was a themed zone supported by Science Foundation Ireland with six scientists working in different ways with water taking part :

- Philip Schuler investigates groundwater flow in 'karst' and uses this information to understand and simulate water flow dynamics.
- Maxime Savatier investigates where water and nutrients flowing to the Irish sea comes from, and what happens when they mix with sea water.
- Jake Cunningham, who won this zone, is looking at using ocean waves to generate electricity
- Annette Wilson works with marine and environmental scientists from across Europe to communicate their research and results.
- Ann Reen takes water samples from houses, rivers, lakes, and the sea, to test them for bugs that cause disease.
- Amy Heather Fitzpatrick is finding ways to detect the winter vomiting bug, norovirus, in water, sewage and shellfish.

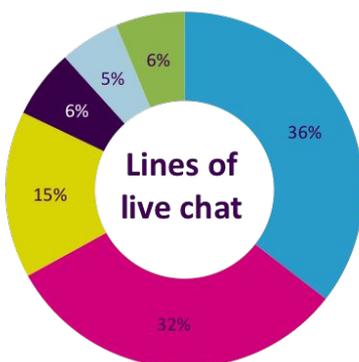
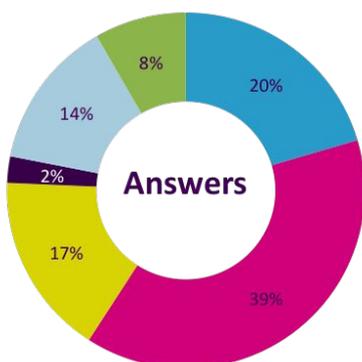
Key figures

Jake and Amy were the most active scientists in this zone, accounting for around 60% of all answers and live chat lines between them.

64% of all questions in ASK were about Science Topics, with students asking about everything to do with the zone theme of water, from the water cycle, to pollution in water, to climate change and rising sea levels, to how water is made suitable for drinking.

	WATER ZONE	NOV '19 ZONES AVERAGE	2012-19 ZONES AVERAGE
Schools	11	11	11
Students logged in	363	367	372
% of students active in ASK, CHAT, VOTE, or comments	82%	87%	86%
Questions asked	603	851	692
Questions approved	315	384	303
Answers given	543	529	511
Comments	61	69	67
Votes	182	281	304
Live chats	18	17	16
Lines of live chat	3936	5092	4359
Average lines per chat	219	293	271

Scientist activity



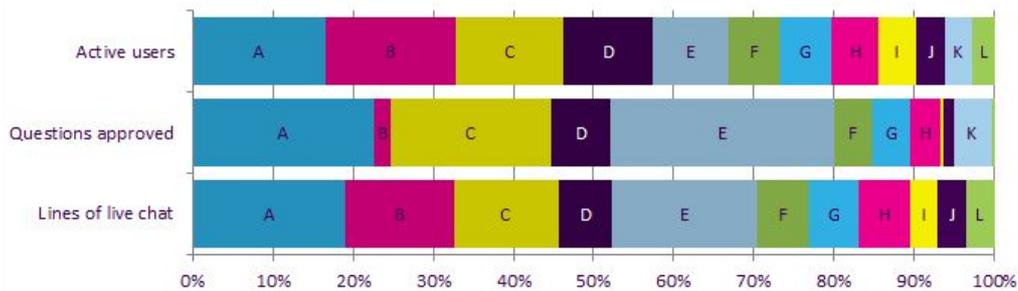
SCIENTISTS

PLACE

- Jake Cunningham
- Amy Fitzpatrick
- Philip Schuler
- Annette Wilson
- Ann Reen
- Maxime Savatier

1st
2nd
3rd
4th
5th
6th

School activity



	YEAR GROUP(S)	CLASSES
A Mountmellick Community School, Laois	1st, 2nd	2
B Loreto Community School, Donegal (DEIS/U)	Transition Year	3
C Community School, Kilkenny	1st Year	2
D Gaelscoil Na Cruaiche, Mayo	5th, 6th Class	2
E Dunboyne Senior NS, Meath (U)	6th Year	2
F Dunmanway Convent Girls Senior NS, Cork	6th Class	1
G Old Bawn Community School, Dublin (U)	2nd Year	1
H Wicklow Educate Together Secondary School, Wicklow (U)	1st Year	2
I Balla Secondary School, Mayo	2nd Year	1
J Clouna NS, Clare (U)	5th, 6th Class	2
K Le Cheile Secondary School, Dublin (U)	1st and Transition Year	2
L Community College Dunshaughlin, Meath (U)	1st and Transition Year	2

We try to reach schools that are less likely to receive visits and benefit from other engagement activities. Find out what we mean by under-served SFI target schools (U) and Delivering Equality of Opportunity in Schools (DEIS), and how you can support us in working with these at about.imascientist.ie/2016/widening-participation

Frequent words used in live chats by students and scientists



Frequent words from chats with 'water' removed



Frequent words from chats with 'water' included

Question analysis



Do you have any children?

The water in my house is very hard, what does that mean?

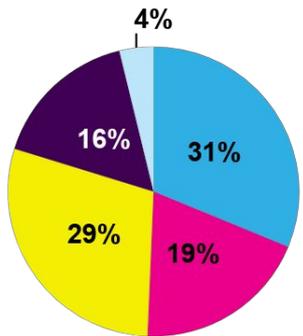
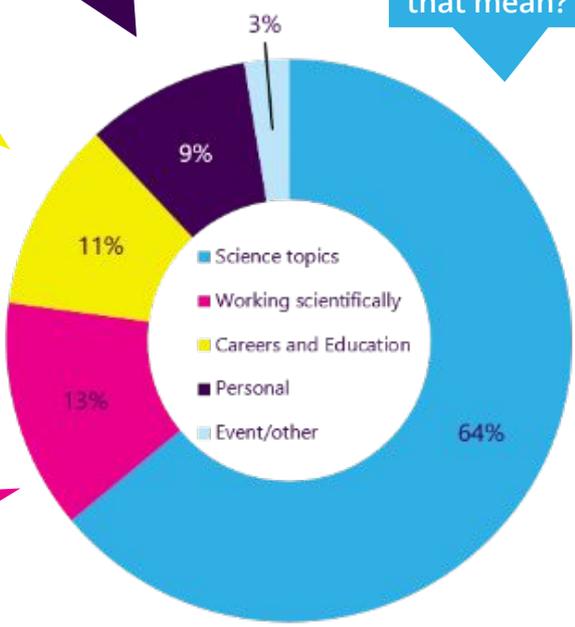
Did you have an inspirational teacher in school?

Why did you decide to research in water over all the other things?

What maths equation do you use for your job?

With vast consumption of prescription drugs in the western world, what impact does pharmaceutical residue have on our rivers and seas?

Why and how does water get undrinkable? Because where I live at the moment the water in the taps or your fridge are undrinkable.



Historic Per-Zone Average (Themed Zone)

Examples of good engagement

There were questions from students about the recent water contamination in Dublin and Kildare, with students interested in what had happened. The scientists were good at explaining the situation in simple terms the students could understand and relate to their own lives:

*"What happened to the water in Dublin recently and how did people find out that it was bad for you?" – **Student***

"There was very heavy rain recently. After heavy rain rivers tend to turn brown in colour because of all the dirt that enters the rivers. So the river water coming into the water treatment plant was dirty & brown in colour. The filters in the plant were not able to remove all the dirt and as a result the water remained brown in colour. The water was then passed through a UV filter to kill any bugs in the water. However because the water was brown in colour the uv filter could not do its job properly

*When the lab tested the water for a test called turbidity it failed the test. The water was not clear. Also because the uv filters could not work properly there was a risk that all the bugs might not be killed so Irish Water had to notify the people who would normally get this water in their taps of the problem." **Ann, Scientist***

Many students were concerned about current environmental issues and climate change, with lots of questions about how they can make changes in their lives to help. The scientists gave detailed answers, giving students the information they asked for in ways they could understand:

*"Is going vegan a good way to save the earth?" – **Student***

*"Veganism is very difficult to adhere under nutritional guidelines for children. As an adult making the choice to be vegan is fine for most periods of your life unless pregnant. Veganism is not always so sustainable depending on your diet. The best option is to keep your diet local or national. Try to eat foods from Ireland, and remember to go back to your food pyramid" – **Amy, Scientist***

*"what do you think of the fake meat? They are saying it is healthy. is that true?" **Student***

*"Interesting question. So fake meat if lab grown or using alternative protein sources, can often be a) very expensive to make b) not use very sustainable ingredients and c) require sterile lab conditions to grow which are very expensive to maintain. Your dietary guidelines account for two servings of red meat a week (pork, beef, lamb). If everyone just ate their allowance of red meat, we wouldn't all need to be vegan to address climate change" - **Amy, Scientist***



Philip



Maxime



Jake



Annette



Ann



Amy Heather



Scientist winner: Jake Cunningham

Jake's plans for the prize money: "I would use the money to do a build your own wave energy device. I would buy supplies for a workshop for students to learn more about wave energy and electricity. I would need to buy supplies for the design of the wave energy devices and to convert the movement of the device to electricity. These supplies would be used by students (you guys) to design and make your very own wave energy device."

Read Jake's [thank you message](#)

Student winner: deer46can

As the student winner, deer46can will receive a certificate and a gift voucher.

Feedback

We're still collecting feedback from teachers, students and scientists but here are a few of the comments made about November's *I'm a Scientist*...

I think it will have made a difference in smashing the stereotypes of scientists and, in doing so, will make science more accessible. I love the fact the students can ask whatever they want too. The caliber of scientists that took part was incredible! Everyone in my zone had amazing communication skills and it was great to see how into it everyone got!

— Scientist



Clouna NS
@Clouna_NS

The senior room took part in @imascientist today and enjoyed a fast paced, live chat with scientists online about a variety of topics! Thanks for answering all our questions #scienceweek

[The students] have really enjoyed their time on I'm a Scientist and are spending their Friday afternoon making posters about all they have learned. They now LOVE science!!! They are still interested in so many answers coming their way!

— Teacher

[We took part] for the first time this year. The students THOROUGHLY enjoyed it and wanted me to thank the organisers of such a successful event. It was extremely easy from the teachers point of view and during our live chats yesterday and today, the students were so amazed at getting their answers back immediately. It was great fun!

Many thanks and we look forward to joining up again next year!

— Teacher

thank you for coming on and answering lots of questions! i've enjoyed taking part in i'm a scientist get me out of here! thank you very much :)

— Student