# November 2023

The Marine Zone ([marine23.imascientist.org.uk](marine23.imascientist.org.uk)) ran from 6 November to 1 December and was funded by the STEM Ambassador Scheme, and Lantra Scotland with support from the Sustainable Aquaculture Innovation Centre.

## Key activity figures

|  | Marine Zone | November Average |
|---|---|---|
| Students logged in | 384 | 556 |
| Students active | 86% | 87% |
| Schools | 29 | 25 |
| Scientists given access | 32 | 37 |
| Scientists active | 27 | 30 |
| Chats booked | 36 | 50 |
| Chats took place | 27 | 36 |
| Lines of Chat | 6,891 | 9,913 |
| Average lines per Chat | 255 | 256 |
| Follow up questions asked | 81 | 127 |
| Follow up questions approved | 65 | 107 |
| Answers given to follow up questions | 427 | 333 |
| Scientist comments | 40 | 39 |
| Student comments | 0 | 4 |
| Votes | 259 | 356 |

## Who took part?

The Zone featured 27 scientists working as marine modellers, consultant marine scientists, managers for marine and sustainable development and science communicators. They connected with 384 students from across the UK. 330 students (86%) actively participated by writing Chat lines and asking follow up questions.

81% of active students were from priority schools.

A total of 259 votes were cast by students. The winning scientist with the most student votes was **Jonathan Teague**, who researches the health of coral reefs using colour and imaging.

## Activity

36 Chats were booked, 27 took place. Of the remaining Chats booked 4 were cancelled and in 5 the school did not attend and did not give notice. Partly, technical issues in the schools were the reason for this.

It is common for students to share login details or computers during Chats. Therefore, the number of students engaged is expected to be higher.

Students asked 81 follow up questions of which 65 were approved and sent to scientists. Duplicate questions (that scientists had already answered) were not sent again, with the student being directed to the previous answer and invited to comment and ask additional questions.

# School activity

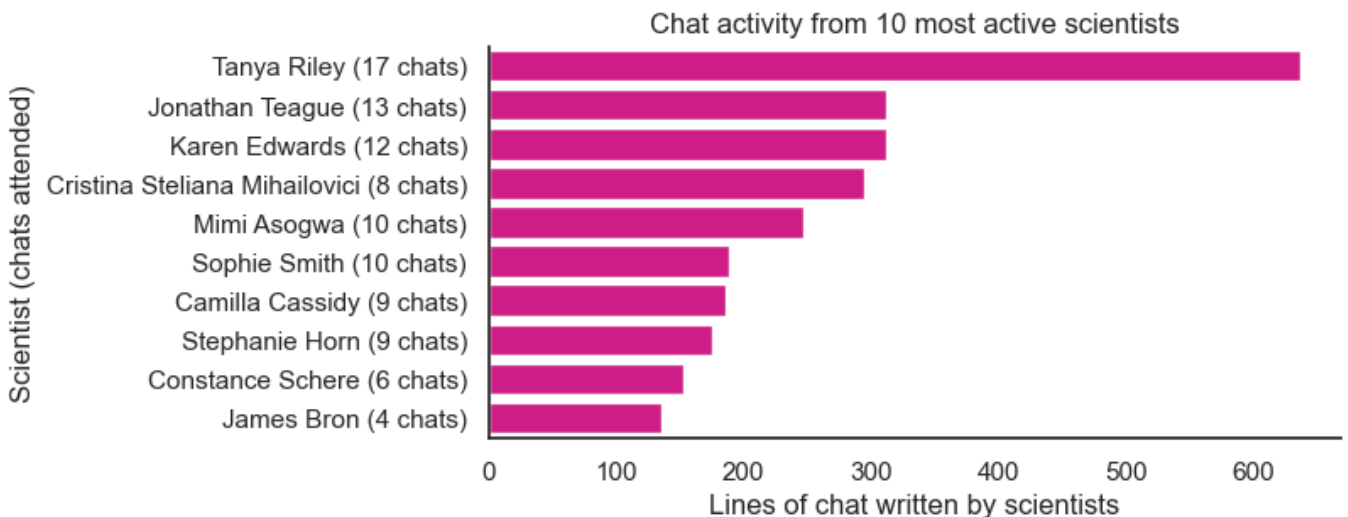| School | Students logged in | Active users | Chats attended | Chat lines (total) | Chat lines (per user) | Follow up questions approved | Votes |
|---|---|---|---|---|---|---|---|
| Shimna Integrated College, Down [WP-Q3 D] | 43 | 42 | 2 | 423 | 10 | 6 | 32 |
| Swanbourne House School | 34 | 33 | 3 | 401 | 12 | 40 | 36 |
| Carluke High School, South Lanarkshire [WP-Q3 D] | 32 | 31 | 2 | 325 | 10 | 4 | 26 |
| Rockland St Mary Primary School | 29 | 29 | 2 | 188 | 6 | 2 | 27 |
| Derby College [WP* D] | 25 | 25 | 1 | 118 | 5 | 4 | 23 |
| St Bede's Catholic Primary School, South Tyneside | 24 | 24 | 1 | 410 | 17 | 3 | 23 |
| South and City College Birmingham [WP*] | 30 | 23 | 1 | 107 | 5 | 1 | 13 |
| The King's Academy, Middlesbrough [WP-Q4 D] | 22 | 22 | 1 | 214 | 10 | 1 | 13 |
| Peterhead Academy, Aberdeenshire [WP-Q2 D] | 23 | 21 | 1 | 99 | 5 | 2 | 17 |
| Ysgol Uwchradd Tywyn, Gwynedd [D] | 19 | 19 | 1 | 309 | 16 | 1 | 19 |
| Weston College, North Somerset [WP* D] | 17 | 17 | 1 | 59 | 3 | 0 | 10 |
| New College Swindon [WP* D] | 15 | 15 | 2 | 113 | 8 | 0 | 9 |
| Hills Road Sixth Form College, Cambridgeshire [WP*] | 15 | 7 | 1 | 22 | 3 | 0 | 2 |
| Colton Hills Community School, Wolverhampton [WP-Q5 D] | 24 | 5 | 1 | 22 | 4 | 1 | 1 |
| Cardinal Winning Secondary School, Glasgow City [WP*] | 4 | 4 | 1 | 49 | 12 | 0 | 4 |
| Copleston High School, Suffolk [WP-Q2 D] | 4 | 4 | 1 | 35 | 9 | 0 | 1 |
| Towers School and Sixth Form Centre, Kent | 3 | 3 | 1 | 36 | 12 | 0 | 2 |
| Elysium Healthcare Potters Bar Clinic School, Hertfordshire [WP*] | 2 | 2 | 1 | 27 | 14 | 0 | 1 |
| The Maelor School, Wrexham [D] | 16 | 1 | 0 | 0 | 0 | 0 | 0 |
| Wigan and Leigh College, Wigan [WP*] | 1 | 1 | 1 | 12 | 12 | 0 | 0 |
| Ashwell Primary School, Hertfordshire*  [WP-Q2 D] | 0 | 0 | 1 | 27 | 0 | 0 | 0 |
| Willowdown Primary School, Somerset* [WP-Q4 D] | 0 | 0 | 1 | 23 | 0 | 0 | 0 |

We want to increase the participation of under-represented groups. WP-Q indicates the level of economic deprivation in a school's catchment area: Q5 represents a high level. D shows schools that are more than 30 minutes from a large research HEI. Find out more, and how you can support us in working with more of these schools: **about.imascientist.org.uk/under-served-and-wp**
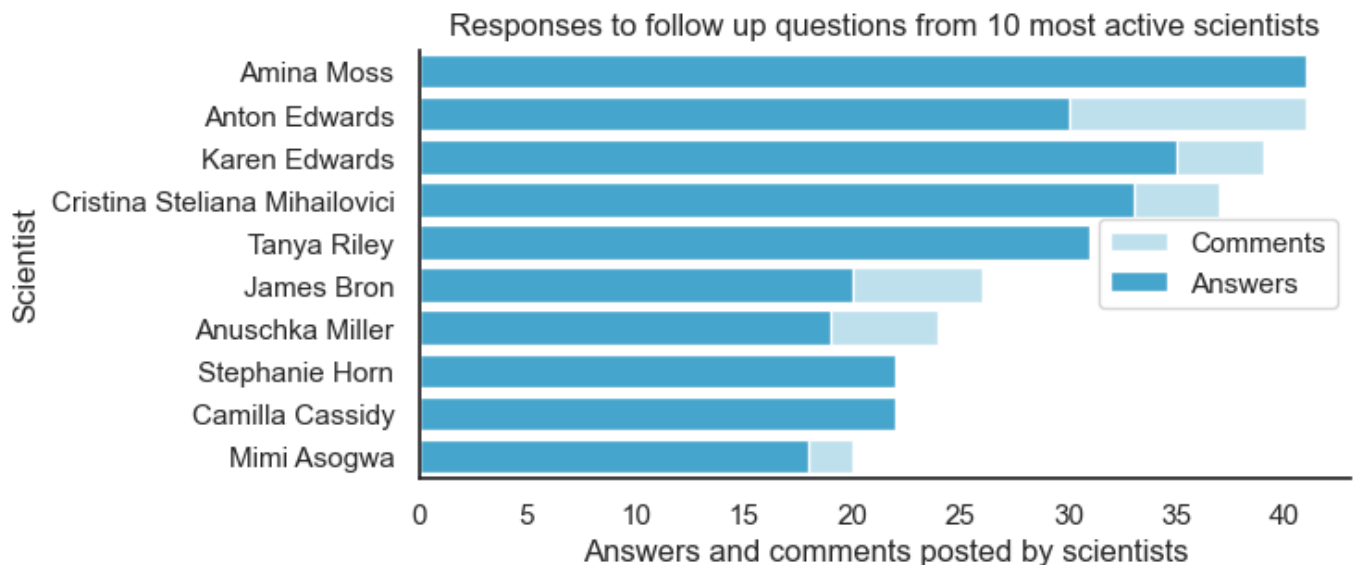
*These schools ran Chat sessions where students' questions were asked through the teachers' accounts.

# Scientist activity

During the Zone the scientists interacted with students by writing 3,872 lines of Chat, and providing 427 answers to 65 follow up questions. On average, 5 scientists took part in each Chat.

## Chat activity from 10 most active scientists

Scientist (chats attended):
- Tanya Riley (17 chats)
- Jonathan Teague (13 chats)
- Karen Edwards (12 chats)
- Cristina Steliana Mihailovici (8 chats)
- Mimi Asogwa (10 chats)
- Sophie Smith (10 chats)
- Camilla Cassidy (9 chats)
- Stephanie Horn (9 chats)
- Constance Schere (6 chats)
- James Bron (4 chats)

Lines of chat written by scientists (0 – 600)

The scientists shown wrote 71% of the lines of chat in the zone.
The average scientist attended 6 chats, and wrote 137 lines.

## Responses to follow up questions from 10 most active scientists

Scientist:
- Amina Moss
- Anton Edwards
- Karen Edwards
- Cristina Steliana Mihailovici
- Tanya Riley
- James Bron
- Anuschka Miller
- Stephanie Horn
- Camilla Cassidy
- Mimi Asogwa

Legend: Comments, Answers

Answers and comments posted by scientists (0 – 40)

The scientists shown posted 63% of the answers, and 80% of the comments in the zone.
The average scientist posted 16 answers, and 1 comments.

# Chats

The word cloud below demonstrates what students and scientists talked about in Chats. The bigger the word, the more frequently it was used.

food career habitat biologist lab coral shetland master
water scotland fish life ocean amazing
bacteria
dolphin experiment learning environment uni
found live shark sea getting
phd marine university research looking
world going diving field experience seen
climate data
whale biology specie animal
computer creature degree study aquaculture depends project
camera

# Follow up questions

The chart below shows an analysis of questions students sent to the scientists. Questions are coded into overarching categories. The examples are coloured by category.



2%
14%
18%
8%
58%
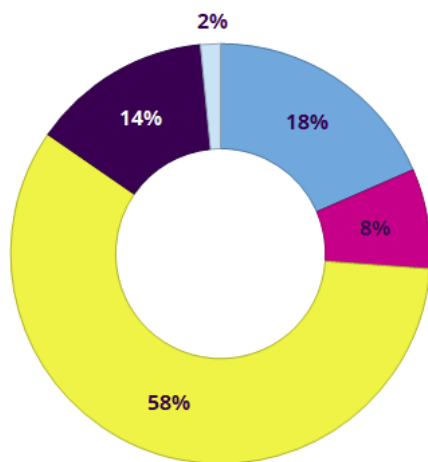
● STEM topics ● Working scientifically
● Careers and education ● Personal ● Event/Other

In your opinion what are the most effective strategies for preserving endangered marine species?

What is aquaculture?

How do you know where to find the Harbour Porpoises in the sea or ocean?

Do you try to maintain genetic diversity in farmed populations?

What kind of things do you do on the aquaculture farms?

What age did you start to get interested in science?

What is the biggest project you have been a part of/ led?

What is your favourite fish to study?

# Examples of good engagement

The Chats provided many examples of great engagement. Questions about science display an interest in Scientific Literacy.

**Student 1:** I've heard that the sea can sometimes turn red, but is that true?

**Constance (scientist):** These are known as red tied and it's due to red algae that covers the surface of the water. It's dangerous for marine life as it deprives them of oxygen

**Student 1:** thank you! I learned a lot!

Personalising science to individuals is a key part of the Science Capital Teaching Approach. In the Chats, students received personally relevant answers to their questions that are applicable to their everyday lives.

**Student 2:** What are the top three things we can do to help reduce climate change/ help the earth/ marine life?

**Sophie (scientist):** Get involved! There are many charities that focus on different types of conservation that you can actively get involved in to help advance scientific research.

**Karen (scientist):** Cycle or walk when you can instead of driving/riding in a car. Limit and/or eliminate as much plastic use as possible. Grow your own veg or eat food as locally as possible.

**Camilla (scientist):** Making sure the fish you do buy is sustainability caught is a good thing too - there's a thing called the Good Fish Guide which talks about which fish have the biggest populations and can be caught in the most sustainable way possible.

**Student 2:** These are fantastic answers - some great food for thought.

Based on their personal interests, students asked scientists for guidance on university courses. The scientists' answers increased this student's awareness of how they could achieve their academic goals.

**Student 3:** How broad is the term marine biology and what other jobs exist within the subject? Apart from conservation.

**Tanya (scientist):** i work within marine spatial planning which is more about marine management and marine biology is incredibly broad!

**James (scientist):** it covers any aspect of biology in the marine environment

**Student 3:** Ah, okay thank you. What would the best course apart from conservation be, to be working with sharks?

**Tanya (scientist):** marine vertebrate zoology at bangor uni is incredible and has a shark specific course taught by dr gareth williams

**Karen (scientist):** if you are interested in sharks, have you checked out the sharks trust?

Students asked scientists personal questions, such as about sports, and gained insight into the lives of scientists beyond their professional roles. This way, students recognised scientists as normal and regular people.

**Student 4:** i love cricket what sport do you like

**Tet (scientist):**I enjoy playing badminton, or swimming

**Student 5:** do you swim to find marine animals?

**Tet (scientist):** Yes .. snorkelling, or paddleboarding .. I feel very relaxed doing these activities watching the animals

**Student 5:** It must be really fun to do these things most of the time

# Scientists of the week

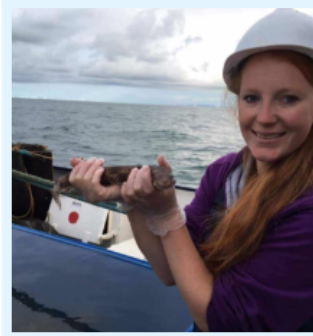Students voted each week for their favourite scientist to be named scientist of the week.

**The Scientists of the Week were:**



**Mimi Asogwa**, who analyses water samples for the presence of antibiotic resistant bacteria.

**Jonathan Teague**, who researches the health of coral reefs using colour and imaging.

**Tanya Riley**, who researches the impact of change on marine life.

**James Bron**, researches fish to improve their health and welfare and protect the marine environment.

# Winning scientist

**The overall winner, with the most votes at the end of the Zone was Jonathan Teague**, who researches the health of coral reefs using colour and imaging.

As Zone winner, he receives £500 to spend on further public engagement projects.
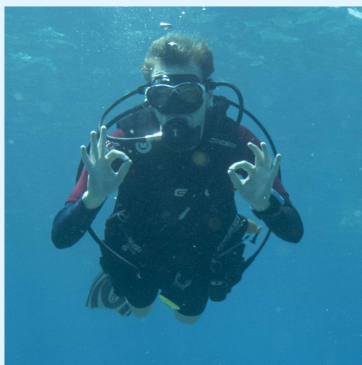


"Wow I am blown away, thanks to all the students that voted for me to win the Marine Zone!  A big shout-out to all the students for posing such interesting and engaging questions. Your curiosity kept me on my toes, and I thoroughly enjoyed the conversations.

I would also like to thank all the teachers, my fellow scientists, the team at I'm a Scientist (especially the mods!) and the funders for making it happen. I am looking forward to developing my marine school resources that will be funded with this prize money, hopefully some of you will get to see them soon."

You can read his full statement here

# Feedback

"Thank you so much. There's been so much inspiration in this chat"

**Teacher**

"Wow i can't believe we are talking to actual scientists!!!!!!!"

**Student**

"I like the rapidity of it all. I like the randomness - quite testing. I like the need to be concise - not always easy"

**Anton** (scientist)

"I've loved it honestly, wish id accepted more chats but this is my first year doing this :)"

**Jade** (scientist)

"Thank you for giving me more information. I was quite intrigued and it was very interesting. Thank you!!!!!"

**Student**

"Thank you very much, you actually widen my understanding on the marine"

**Student**

"It's been a great experience, love been able to talk about science and engage with the students"

**Tanya** (scientist)

"Thank you so much for all your answers and the insights into your working lives"

**Teacher**