

Food Science Zone Report – March 2013

The Food Science Zone ran from March 11th – 22nd 2013. It was funded by the University of Nottingham and the Global Food Security programme.



The University of Nottingham

The food scientists

The Food Science Zone was publicised to food scientists through emails sent to university food science departments and food institutes in the UK. 14 food scientists applied for the 5 places, so the zone was nearly 3 times oversubscribed. We asked students to rate a one sentence summary of all scientists work to help guide the scientists that got in. We worked with Nottingham University to select the final 5 food scientists, based on their one sentence summary while also balancing the zone for gender, geographical location and speciality within food science. We also selected one scientist with links to Nottingham University and one from the Institute of Food Research. The 14 food scientists who applied wrote impressive one sentence summaries of their work – fun, engaging and interesting to 13 year olds. We could only fit 5 in the Food Science Zone but we placed another food scientist, Simon Park, in the general Palladium Zone. The five scientists in the Food Science Zone are shown below.

| Rachel Edwards-Stuart | Nik Watson | Julie Bland | Grant Campbell | Duncan Gaskin |
|--|---|--|---|---|
|  |  |  |  |  |
| Me and my Work: I have always loved food and cooking, and at school I always enjoyed science. When I found out that I could get a job that linked the two it was great! Read more about me | Me and my Work: I study the properties of food and other substances using sound waves. Read more about me | Me and my Work: I am a cheese scientist and my work at the moment is to use science to produce a lot of cheese which still tastes good! Read more about me | Me and my Work: I am an academic at a top university; this means I "do" higher education, which means expanding knowledge by doing research (expanding the amount of what is known) and by educating students (increasing the amount and quality of knowledge held by individuals), in the area of chemical engineering including food processing. | Me and my Work: I'm a lab based scientist trying to work out how some of the nastiest bugs do their thing. Read more about me |
| Latest Question: what foods do you make with the machines? | Latest Question: why do we live (as in whats the point)? | Latest Question: what experiments have you been doing lately? | Latest Question: why does caffeine make you hyper??? :D | Latest Question: Do you have children? What are their names? How old are they? :) |
| Latest Comment: why do you test substances using soundwaves? (1 comments) | Latest Comment: have you always wanted to be a | Latest Comment: Do you have children? What are their names? How old are they? :) | Latest Comment: Do you have children? What are their names? How old are they? :) | Latest Comment: Do you have children? What are their names? How old are they? :) |

Activity levels

The Food Science Zone was very busy. There were lots of questions early on and although it did calm down, there was still a steady flow of questions coming in outside of the live chats throughout the fortnight. There was at least one live chat every day of the event. The page views of the zone during the 2 weeks of the event show that the zone was attracting visitors throughout the fortnight, though visits peaked in the first week when most questions were submitted.

There was a lot of topical discussion generated by the topic of horse meat, and there was some great engagement through further comments in response to other questions and answers in Ask, including on the topics of bugs, equipment and the use of sound waves to test foods. Chats were also very interactive. Grant gave some great clear answers to primary school students, there was some really good interaction between Rachel and students in one particular chat, and Duncan gave lots of quick, concise and accurate answers throughout.

Site figures

Page views of the zone during the 3 weeks surrounding the event



Being online there is a vast amount of data we can collect about the event and each individual zone. The tables below show data for the Food Science Zone and all zones averaged from Google Analytics (number of page views) and site statistics of activity on the zone.

| Zone page | Page views |
|------------------------------|------------|
| Total zone | 19,338 |
| ASK page | 1,654 |
| CHAT page | 1,489 |
| VOTE page | 1,049 |
| Rachel Edwards-Stuart | 668 |
| Nik Watson | 563 |
| Julie Bland | 553 |
| Grant Campbell | 522 |
| Duncan Gaskin | 711 |

| | Zone | Zones average | Whole event |
|---|-------|---------------|-------------|
| Registered students | 324 | 339 | 3,731 |
| % of active students (used ASK, CHAT, VOTE or commented) | 89% | 89% | - |
| Questions asked | 1,321 | 846 | 9,307 |
| Questions approved | 522 | 356 | 3,921 |
| Answers given | 736 | 669 | 7,357 |
| Comments | 237 | 109 | 1,198 |
| Votes | 343 | 296 | 3,255 |
| Live chats | 17 | 16 | 179 |
| Lines of live chat | 4,935 | 5,088 | 55,971 |
| Schools | 10 | 9 | 97 |

Scientist winner: Duncan Gaskin



Duncan Gaskin was voted the winner in the Food Science Zone after picking up 57% of the 344 votes cast. All the scientists were great in the live chats and made an effort to answer lots of questions quickly outside of the live chats too, despite the fact that they had a lot to keep up with, especially during the first week!

| Scientist | Position | % of votes |
|------------------------------|-----------------|------------|
| Duncan Gaskin | 1 st | 57% |
| Julie Bland | 2 nd | 17% |
| Nik Watson | 3 rd | 11% |
| Rachel Edwards-Stuart | 4 th | 8% |
| Grant Campbell | 5 th | 6% |

Duncan's plans for the prize money: "I'm looking forward to being able to give the prize money to the Teacher Scientist Network (www.tsn.org.uk) a Norwich based charity who work to link scientists with local schools to promote science education. Their resources and help have allowed me to engage with a range of local schools in the past and I look forward to working with them in the future."

Student winner: dom1234 – For great engagement in Ask, lots of questions, comments and interaction with the scientists, and staying engaged throughout the fortnight.

Popular questions

As expected, general food questions were very popular in the live chats, and there were also lots of questions relating to health and food safety. Popular topics included taste and the making of foods, which foods are safe to eat, and microbes and rotting. Inventions was another popular topic, and asking whether the scientists had created any food products that are now for sale. Favourite/worst/unusual food questions came up a lot in both Chat and Ask.

The question *what is your favourite cheese?* was asked by 25 students, and there were lots more questions on cheese and cheese making. There was also a lot of interest in the horse meat scandal, with up to 20 students asking questions about horse meat.

There were lots of questions on bugs and illness for Duncan, relating to his research, and the cheese questions, though often aimed at all of the scientists, related very much to Julie's work – the students were also interested in whether she owned cows and lived on a farm. There were questions for Nik on sound waves, Grant on bubbles and Rachel on her experiments combining science with cooking. Students were interested in how much the scientists enjoy teaching alongside research, and many students asked about experiments and equipment used by the scientists.

Some of the food science related questions asked by students are shown below, and there are many more on the site.

Sample questions

[Do you think there is anything wrong with eating horse meat or not?](#)

[What's the best looking bug?](#)

[What is the most used piece of equipment you use every day?](#)

[What is the worst bug you have come across and why?](#)

[Why do you test substances using sound waves?](#)

[How many different animals have been tried, throughout history and now?](#)

[If you ate not fully cooked bread would you be drunk because of the alcohol caused by the yeast?](#)

[If you give a cow chocolate will its milk be chocolate?](#)

[Could you provide a definite answer to some people who believe that GM food is not safe to eat.](#)

[Why are foods different colours, different smells, and different tastes? How do these 3 things change when a food goes off?](#)

Keywords from live chats in the zone (the size of the word represents its frequency)



Keywords from questions asked in the zone (the size of the word represents its frequency and the superscript number indicates the number of times it was tagged as a keyword)

[animal](#)¹⁰ [bacteria](#)⁶ [bread](#)⁷ [bug](#)¹² [career](#)²⁹ [career choice](#)⁹ [cheese](#)⁶⁵ [cheese making](#)¹⁵
[chocolate](#)⁹ [competition](#)⁵ [cooking](#)⁹ [cow](#)¹¹ [diet](#)¹⁷ [education](#)¹⁵ [enjoy](#)⁸ [experiment](#)³¹
[favourite](#)²⁴ [flavour](#)⁸ [food](#)⁴¹ [fruit](#)⁵ [future](#)⁸ [health](#)²³ [horse](#)⁸ [how science works](#)⁵ [human](#)⁶
[invention](#)⁸ [job](#)¹⁷ [life](#)⁶ [meat](#)¹¹ [music](#)⁶ [nutrition](#)¹³ [personal](#)⁴⁶ [preference](#)⁴²
[research](#)²⁹ [rotting](#)⁵ [routine](#)⁵ [school](#)¹¹ [smell](#)⁸ [sound wave](#)⁷ [taste](#)¹² [teaching](#)⁹ [unusual](#)⁵ [vote](#)⁷ [win](#)⁷
[work](#)⁶⁴

Widening participation

Part of the funding for this zone came from Widening Participation at the University of Nottingham. The aim was for a third of the schools in the zone to be classed as WP schools according to the University of Nottingham WP team. We offered places to 13 schools, and 10 schools took part in the Food Science Zone. This is a lower drop out rate than usual. We made a particular effort to check that the WP schools weren't having trouble registering, and supported them through the process to reduce the possibility of them not taking part. 5 of the schools were classed as WP:

1. Acle Academy, Norfolk. 51 students.
2. Hurstmere School, Sidcup. 31 students.
3. Scraftoft Valley Primary School, Leicester. 19 students.
4. St Cuthbert's Catholic Community College for Business and Enterprise, Merseyside. 20 students.
5. Nursteed Community Primary School, Devizes. A class took part in a live chat through their teacher.

A total of 121 students out of the 323 registered in the zone (37%) were from WP schools. In addition a class from Nursteed Community Primary School part in their live chat through their teacher, rather than registering their own user accounts. We don't know the number of WP schools in other zones and across the event.

We looked into the activity levels of the WP students in comparison to the rest of the students in the Food Science Zone.

- In every measure we looked at, the 121 WP students were considerably more engaged and involved with the event than the 202 non WP students.
- 99% of the WP students were actively engaged (asking a question, chatting, voting or commenting) compared to 82% of the non WP students.
- The WP students asked 6.5 questions on average, compared to the non WP students' 3.5 questions each. And the questions that WP students asked were good - they weren't just asking lots of spam questions.
- The WP students commented more and voted more than their non WP counterparts.
- 24 students took part per class at the WP schools, whereas there were only 18 students per class at the non WP schools.

Students from WP schools seem to engage with the scientists and the event even more strongly than students from other schools. We will continue to engage those schools in the future.

What have we learnt?

1. **Food scientists want to do Public Engagement!** 14 food scientists applied for the five places in the Food Science Zone showing that they're keen to engage with students.

"I love the live chat really fun! Thanks for putting this event in place!!!" – Julie Bland, scientist

"I've missed my daily chat today, no adrenalin fix Talking to my colleagues isn't quite the same! Many thanks for your organisation behind the scenes. I'll be encouraging my fellow scientists to sign up for the next one - I assume I'm not allowed to..... might try a pseudo name." – Duncan Gaskin, scientist

"Once again, thanks for the opportunity to take part in this - it was an enjoyable and different experience." – Grant Campbell, scientist

2. **Encouraging WP schools to take part worked.** The drop out rate was lower than expected and participation from their students was high. This is something we would like to explore more in the future – how to identify WP schools and get more of them taking part with more students.
3. **Students like food. They also like the science behind food.** Lots of the questions weren't about food science which is expected in themed zones, as students can ask about anything they like. The questions that were on food were about topical news on food science and most notably about the scientists' work. This shows I'm a Scientist is a great way to highlight the work of particular scientists or areas in a broad theme such as food science. We were clear at the start that the zone was not to be about nutrition and health, and avoided contacting such researchers about participating. There were some questions about nutrition which is not unexpected (you get them in every zone) but there was a much larger focus on the food scientists' work.

"wow seems like u have fun being a scientist" – tamzinc, student

"Some of our Year 7 pupils were lucky enough today to take part in a webchat with a real scientist, working in the Food Science industry! They got to ask him all sorts of questions." – Fiona McConvery, teacher