



## STFC Large Award Evaluation

June 2013 - March 2016

### I'm a Scientist and I'm an Engineer Winners in STFC Funded Zones



**Emma Dean**  
PhD Student,  
University of  
Southampton  
**Gravity Zone**  
March 2016



**Scott Lawrie**  
Particle Accelerator  
Physicist, Rutherford  
Appleton Laboratory  
**Iridium Zone**  
March 2016



**Jack Carlyle**  
Solar Physicist,  
Mullard Space Science  
Laboratory  
**Extreme Pressure Zone**  
November 2015

**Lee Margetts**  
Lecturer in Engineering,  
University of Manchester  
**Energy Zone**  
June 2015



**Ashley Hughes**  
Postdoctoral Researcher,  
Gothenburg University  
**Tantalum Zone**  
November 2015



**James Gilbert**  
PhD Student,  
University of Oxford  
**Electromagnetic Zone**  
June 2015



**Sarah Beasley**  
Avonics & Mission  
Systems Engineer,  
QinetiQ  
**Extreme Force Zone**  
June 2015



**Norbert Gogiel**  
Aerospace Analyst  
Engineer,  
Oxford Space Systems  
**Kelvin Zone**  
June 2015



**Chris Armstrong**  
PhD Student, Rutherford  
Appleton Laboratory  
**Hafnium Zone**  
June 2015



**Hugh Harvey**  
Medical Physicist,  
Institute of  
Cancer Research  
**Light Zone**  
March 2015



**Ollie Brown**  
PhD Student,  
Heriot-Watt University  
**Particle Physics Zone**  
March 2015



**Graham Wiggins**  
Electrical Engineer,  
Central Laser Facility  
**Apprentice Zone**  
June 2014



**Stefan Lines**  
Research Scientist,  
University of Bristol  
**Big Data Zone**  
November 2014



**Lisa Simmons**  
Lecturer in Applied  
Physics, Manchester  
Metropolitan University  
**Extreme Temperature Zone**  
November 2014



**Roberto Trotta\***  
Senior Lecturer in  
Astrophysics,  
Imperial College London  
**Astronomy Zone**  
June 2014



**Nick Wright**  
Postdoctoral Researcher,  
Linear Accelerator Lab  
**Extreme Size Zone**  
March 2014



**Jessica Marshall Housden**  
Spacecraft Systems  
Engineer, BepiColombo &  
Solar Orbiter Missions  
**Space Zone**  
March 2014



**Daren Fearon**  
Postdoctoral Researcher,  
University of  
Southampton  
**Diamond Zone**  
June 2014



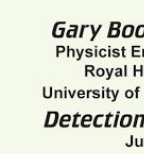
**Dave Jones**  
ESO Postdoctoral Fellow,  
University of Atacama  
**Extreme Energy Zone**  
June 2014



**Kristian Harder**  
Particle Physicist, Rutherford  
Appleton Laboratory  
**Particle Physics Zone**  
November 2013



**Stuart Archer**  
PhD Student,  
University of Sheffield  
**New Materials Zone**  
June 2013



**Gary Boorman**  
Physicist Engineer,  
Royal Holloway  
University of London  
**Detection Zone**  
June 2013



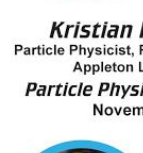
**Clara Nellist**  
Royal Astronomical Society  
Research Fellow  
University of Hertfordshire  
**Nuclear Zone**  
March 2014



**Sarah Tesh**  
PhD Student  
University of Bristol  
**Extreme Clean Zone**  
November 2013



**Sam Geen**  
Postdoctoral Researcher,  
The Observatoire de Lyon  
**Extreme Speed Zone**  
June 2013



**Dave Briggs**  
Postdoctoral Researcher,  
University of Manchester  
**Crystallography Zone**  
June 2013



\* Roberto Trotta, June 2014 Astronomy Zone winner opted to give his £500 to the runner up in the zone as he already held a public engagement grant.



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## Introduction

[I'm a Scientist](#) (IAS) and [I'm an Engineer](#) (IAE) are two online public engagement events that get scientists and engineers talking to school students all over the UK.

Scientists and engineers create a profile on the website and engage directly with students in live text-based chats. The students ask questions about whatever they want - the scientists' or engineers' work, their careers, their wider interests, the universe and beyond! The event helps students to realise that they can relate to science and technology. Students have the power to decide which scientist or engineer wins a £500 prize to be spent on more outreach, giving students ownership over the event.

The events run three times every year – in March, June and November and they are split into zones – some are themed like the Gravity Zone (featuring experts in this field) and some are general such as the Iridium Zone (featuring a wide mix of scientists) or the Kelvin Zone (with 5 engineers from different fields). Each zone has five scientists or engineers and a target of 330 students.

In 2013, we received an STFC Large Award to engage 9,000 students with STFC science and engineering in 27 zones over three years, between June 2013 and March 2016. This report is a summary of the targets we have met and the challenges we have found in this period.

We recently wrote a more detailed report about our learnings in I'm a Scientist between 2012 and 2015. You can access this report:

[about.imascientist.org.uk/category/evaluation/evaluation-reports/2012-2015/](http://about.imascientist.org.uk/category/evaluation/evaluation-reports/2012-2015/)

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## Executive summary

- 1. 135 scientists and engineers have engaged with 10,602 students from all around the UK** between June 2013 and March 2016, at [imascientist.org.uk](http://imascientist.org.uk) and [imanengineer.org.uk](http://imanengineer.org.uk).
- 2. We have distributed £13,000 to 26 zone winners**, 24 of which were STFC related scientists and engineers, who use the prize money to communicate STFC related research.
- 3. STFC zones reached a diverse set of students.** 276 teachers, from 242 different schools geographically spread around the UK took part in STFC zones in I'm a Scientist or I'm an Engineer. Of these schools, **15% of them are Widening Participation** schools.
- 4. Scientists and engineers taking part in STFC zones are diverse, but there is room for improvement.** 38% of the participants in STFC zones are female, and 7.7% are non-white. The lack of diversity in the events reflects the current profile of STFC staff, where 5.3% of employees are non-white and 24.6% are female.
- 5. Taking part in I'm a Scientist (IAS) and I'm an Engineer (IAE) has a positive impact on students' attitudes to STEM.** There is even a correlation between students' activity on the site and their positive change in attitude: the more activity on the site, the more positive the change in attitude observed.
- 6. The events are a public engagement boost for scientists and engineers.** 96% of participants want to do more public engagement after taking part, and a large number of these go on to do so. In I'm a Scientist, those who did very little public engagement before taking part increased their number of engagement activities from an average of 1.6 outreach activities per year before, to 3.7 activities per year after the event.
- 7. One of the main challenges has been recruiting scientists and engineers whose work is related to STFC.** Towards the end of the award period we were able to **work more closely with the STFC outreach team** to use their input when choose zone themes and recruiting scientists and engineers.
- 8. We are trying to reach new audiences.** We created a [Harwell Zone](#) to allow Harwell Open Day visitors to text in questions to exhibitors. Visitors were able to text a question, get a response to manage their expectations and a notification when someone answered the question, but there was not enough publicity to reach the public in significant numbers. The zone wasn't a great success, but it started the development of future zones open to non-school sectors of the public.



## 1. STFC Large Award objectives

In our application for the STFC Large Award we set a number of specific objectives to be achieved in the three year period. The table below summarises these objectives and the results we've got.

Objectives	Results
<p>A total of 27 zones in 3 years, at 9 zones per year:</p> <ul style="list-style-type: none"> <li>• 6 I'm a Scientist (IAS) zones</li> <li>• 3 I'm an Engineer (IAE) zones</li> </ul>	<p>We have run 27 zones to date, but we have allocated zones differently to the original plan:</p> <ul style="list-style-type: none"> <li>• 2013: 5 IAS zones, 1 IAE zone</li> <li>• 2014: 7 IAS zones, 2 IAE zones</li> <li>• 2015: 8 IAS zones, 2 IAE zones</li> <li>• 2016: 2 IAS zones</li> </ul> <p>This was due to a greater demand for IAS than IAE zones from teachers.</p>
<p><b>In each zone, on average:</b></p> <ul style="list-style-type: none"> <li>• 330 students</li> <li>• 6,000 lines of live chat</li> <li>• 15 live chat sessions</li> <li>• 300 votes</li> </ul>	<p><b>On average, each zone has had:</b></p> <ul style="list-style-type: none"> <li>• 408 students</li> <li>• 6,452 lines of live chat</li> <li>• 17 live chat sessions</li> <li>• 318 votes</li> </ul>
<ul style="list-style-type: none"> <li>• 1,000 questions asked</li> <li>• 1,000 answers given</li> </ul>	<ul style="list-style-type: none"> <li>• 703 questions asked, 308 questions approved</li> <li>• 597 answers given</li> </ul> <p>The most questions asked in one STFC zone was 1,220. Expecting an average of 1,000 questions per zone was too optimistic. On average each scientist or engineer answered over 119 questions in two weeks. Expecting each of them to answer around 200 questions was, on reflection, unrealistic.</p> <p>Zones remain online and to date STFC Zones have received over 1 million page views since April 2013.</p>

<ul style="list-style-type: none"> <li>135 STFC users taking part</li> </ul>	<ul style="list-style-type: none"> <li>95 scientists and engineers related to STFC (facility users, STFC funded researchers, using STFC data...) have taken part in STFC funded zones, although up 134 STFC related researchers have taken part in our events in this period.</li> </ul> <p>We've reached scientists and engineers from several STFC facilities in the UK and abroad including: Diamond, RAL, ISIS, CLF, Cockcroft, UKIRT, Bepi-Colombo, Solar Orbiter, ARCHER, ILL, CERN, JCMT, Herschel, ALMA, VLT, and AAO.</p>
<ul style="list-style-type: none"> <li>9,000 students</li> <li>£13,500 prize money awarded</li> </ul>	<ul style="list-style-type: none"> <li>10,602 students taking part</li> <li>£13,000 prize money distributed to be spent on further Public Engagement. One of the zones was Harwell Open Day Zone, which had no prize. More about prize money winnings below.</li> </ul>
<p>Participant satisfaction:</p> <ul style="list-style-type: none"> <li>91% of scientists and engineers want to do more outreach after participating.</li> <li>97% of teachers, scientists and engineers say they have enjoyed the activity</li> <li>87% of students are actively engaged with the event.</li> </ul>	<p>The scientists and engineers who have taken part:</p> <ul style="list-style-type: none"> <li>96% of participants say the event makes them want to do more public engagement. More on point 3.4 of this report.</li> <li>99% of teachers say they are satisfied with the activity.</li> <li>89% of students are actively engaged: asked questions, commented, chatted with the scientists or engineers or voted for their favourite.</li> </ul>
<ul style="list-style-type: none"> <li>Students spend on average 43 minutes logged in to the site.</li> </ul>	<ul style="list-style-type: none"> <li>Students spent an average of 35 minutes logged into the site.</li> </ul>

## 2. A closer look at scientists, engineers and students

### 2.1. STFC zones reached a diverse set of students

From June 2013 to March 2016, 10,600 students from over 240 schools around the UK engaged with STFC science and engineering. Schools are geographically spread from Orkney to Plymouth, and from Northern Ireland to Norwich - see red dots on the map below.

One of our long term goals is to increase the number of Widening Participation schools taking part in our projects. We have recently established our own set of criteria to define Widening Participation Schools.

A Widening Participation School fulfills at least one of the following requirements:

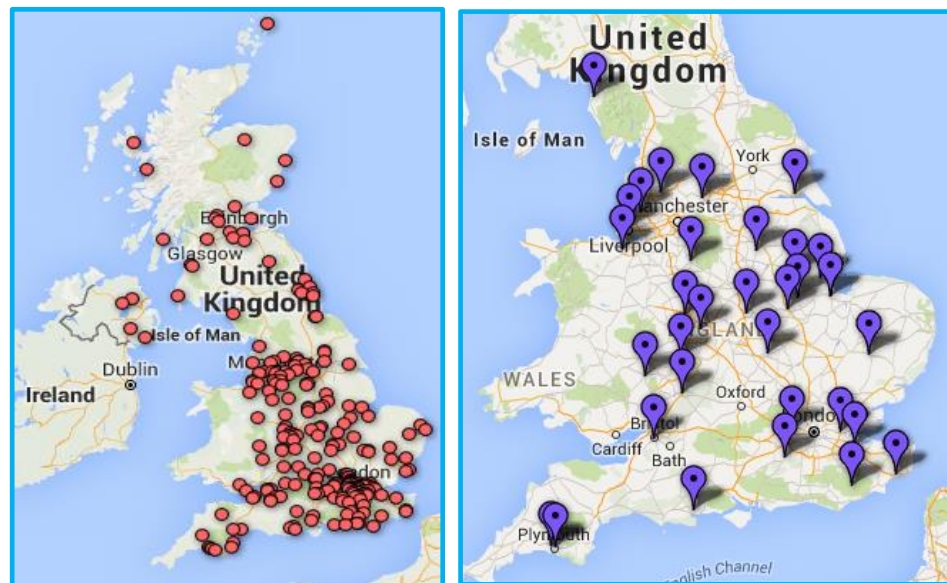
- the % of students achieving 5 grades A\*–C at GCSE is below 45%
- the % of students achieving level 4 in reading, writing, and maths at KS2 is below 45%
- the % of students eligible for free school meals is higher than 41%
- is in an area where POLAR3 is in the first quintile
- is more than 25 miles away (in a straight line) from a Higher Education Institution.

We have classified all the participating schools in England and Wales according to this criteria. We still need to find the data for Scotland and Northern Ireland.

215 schools in England in Wales have taken part in a STFC funded zone between June 2013 and March 2016. Of these, **15% of them are Widening Participation** according to our definition - purple markers on the map below.

In the future, we want to target Widening Participation schools until they represent at least 30% of all participating schools in 2020.

Red dots represent all the schools which have taken part in STFC zones between June 2013 and March 2016. Purple markers on the map on the right are the Widening Participation schools - we only have data for England and Wales.

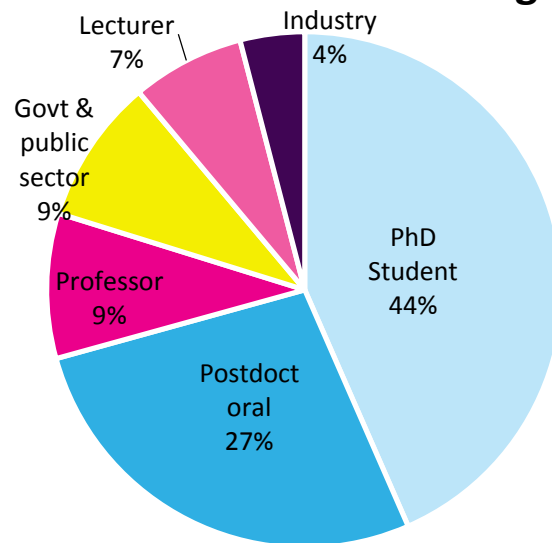


## 4.2. Scientists and engineers

Our intention is to provide students the opportunity to engage with the widest range of scientists and engineers possible. Whilst emphasising the diversity of STEM careers and backgrounds, this also allows students to identify themselves in the scientists and engineers and see them as role models.

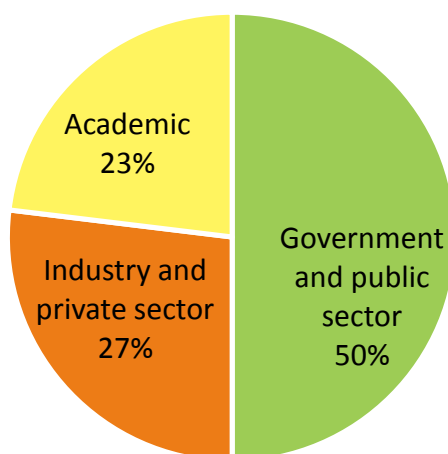
**A significant proportion of the scientists who have taken part in STFC zones are PhD students (44%).** We welcome this as they are generally closest to the school students in terms of age, language, etc., and we also believe they will benefit most from taking part through improving their communication abilities. Postdoctoral researchers, Lecturers, Professors and scientists working in the public and private sectors have also participated and also benefited from a reinvigorating experience and seeing their research from a different perspective.

**Scientists' career stage**

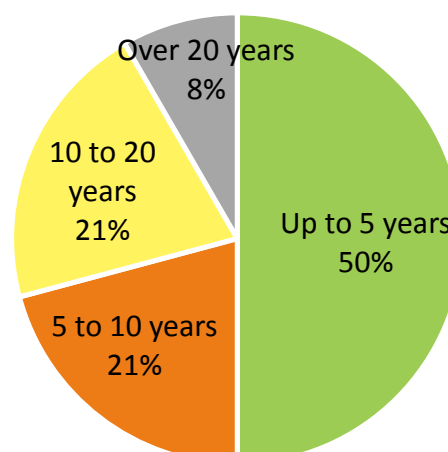


**Most of the engineers who have taken part in STFC zones work in the public sector (50%),** and - similar to scientists, **half of them are starting their careers** and have up to 5 years of experience.

**Engineers' sector**



**Engineers' experience**



In terms of gender and BME diversity, **38% of the participants in STFC zones are female, and 7.7% are non-white.** Although we would like to achieve a higher diversity in the future, the latest figures for STFC staff ([March 2015 report](#)) reveal that only 5.3% of their employees are non-white, and 24.6% are female.



### 3. I'm a Scientist and I'm an Engineer impact

#### 3.1. Impact on students attitudes to STEM

Students and teachers leave very positive comments on live chats, questions, and surveys. Sometimes, teachers email us their positive feedback on the impact that I'm a Scientist and I'm an Engineer have on students:

**“** *I have learnt how fascinating science can be and the wonders of space.(...) I now know science can be cheesy but you can discover things that you have never know before (...). I am very happy that I was able to take part in this chat”* - student, Gravity Zone March 2016

**“** *I have learnt that scientists aren't all that different to everyone else and anyone can really become a scientist if they really wanted to.”*  
- 669rdme37, student, Iridium Zone March 2016

**E** *Students gained a realistic insight into the life of an engineer”* - teacher, June 2015

**E** *Students seem to have broadened their horizons about career paths.”* - Paula Conibear, teacher

As fans of evaluation and data, we want to have a more accurate picture of the extent of the change to students' attitudes towards science and engineering. To this aim we have designed pre and post event questionnaires for the students.

When students log in to the sites, they find a set of questions to fill in then, and then we ask them to fill in a similar set of questions after taking part. We ask slightly different questions in I'm a Scientist and I'm an Engineer in order to measure the specific impacts of each project. We always ask for the username so we can match pre-event and post-event answers.

### 3.1.a. I'm a Scientist impact

In 2014, we analysed data from **853 valid responses from students** across three events from June 2013 to March 2014 in the UK. Students were asked the four questions on the right.

Each question had a five point answer scale, to which we assign a numerical value: 2 for the most positive answer, -2 for the most negative. We matched each student's answers on registration to their answers after they've taken part. Then subtracted the "before event" value from the "after event" value to give us a value for change in attitude for each question for each student. As with all non compulsory surveys, the data collected post event most probably suffered from some self-selection bias.

**How does school make you feel about science?**

Please choose from the dropdown menu

**Are you planning to choose a science subject at the next stage of your education?**

Please choose from the dropdown menu

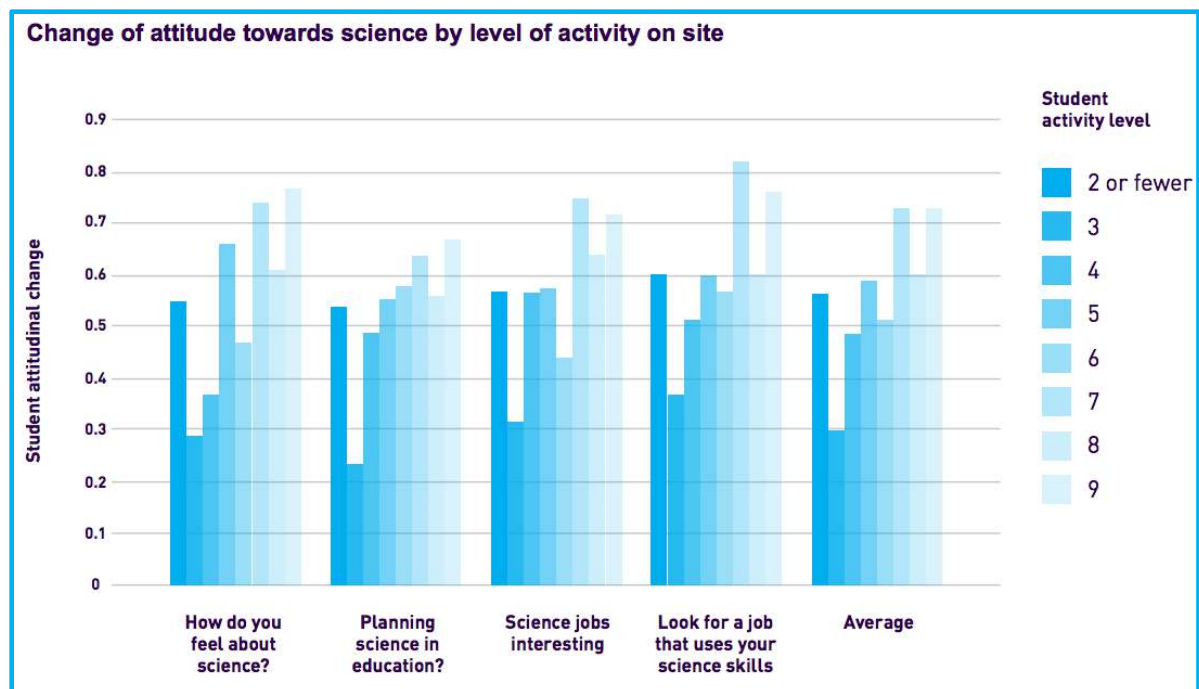
**Do you think jobs involving science are interesting?**

Please choose from the dropdown menu

**When you finish your education, how likely are you to look for a job that uses your science knowledge and skills?**

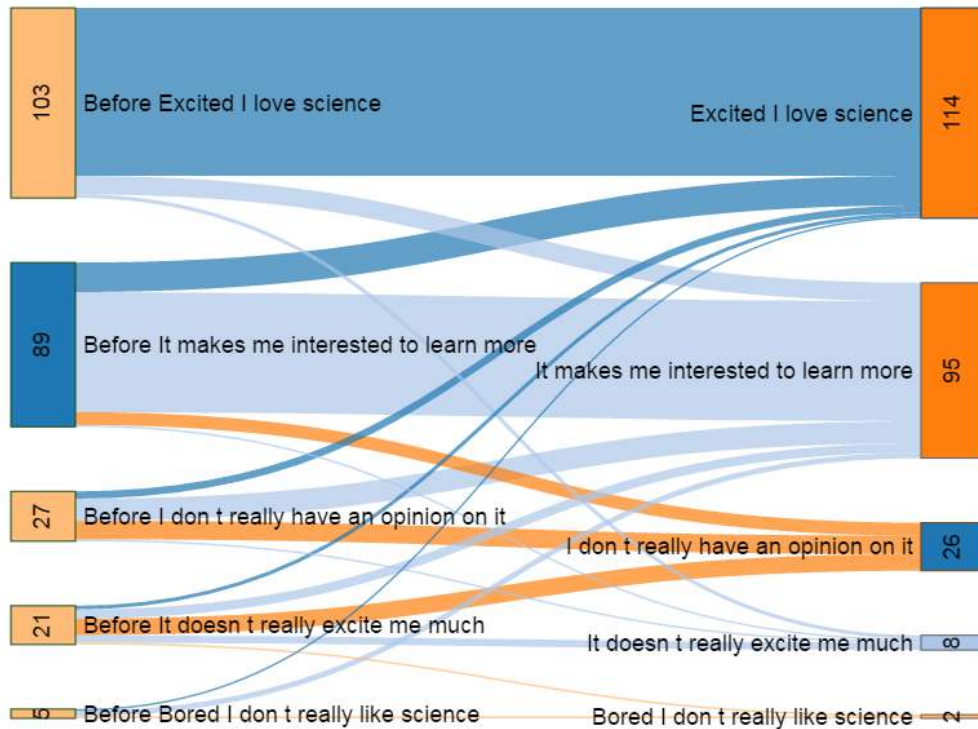
Please choose from the dropdown menu

In parallel to this, we looked at the three main types of activity: ASK, CHAT, VOTE and scored each student in rough quartiles between 0 and 3 depending on how active they were. Adding up the individual scores gave each student a total score between 0 and 9. If we put these data together with the survey results we get a very nice picture: **the overall trend is that the more activity on the site the more positive the change in attitude towards science.**



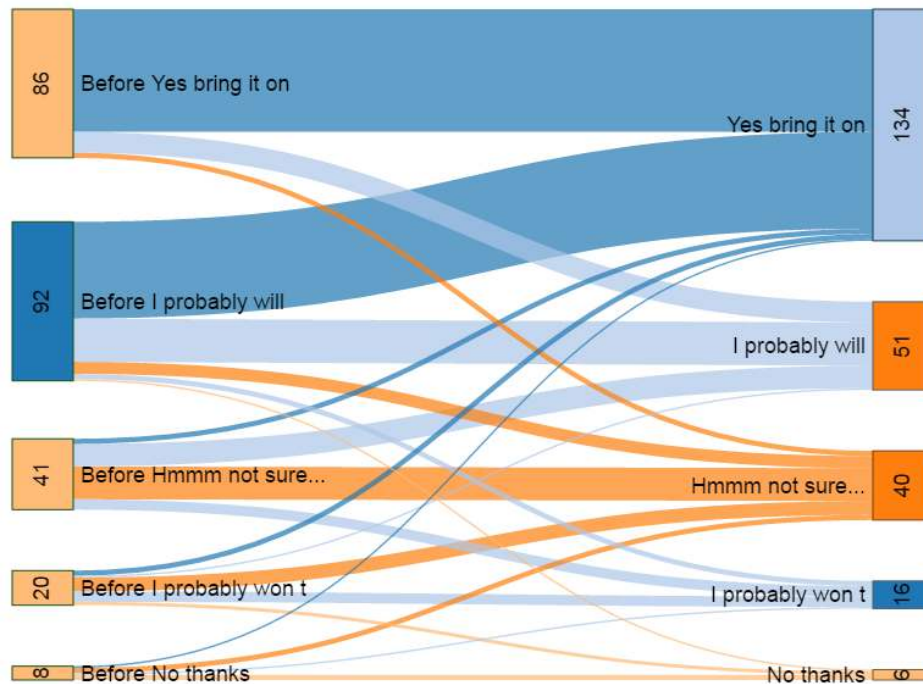
We keep looking at these data every few events, to make sure the positive trend is not anecdotal, but rather steady. We just looked at **responses from 249 students who had taken part between November 2014 and June 2015**. I'm a Scientist keeps having an impact on students attitude to science. This time, we are using Sankey diagrams to show how students change their views and opinions during the event.

### How does school make you feel about science?



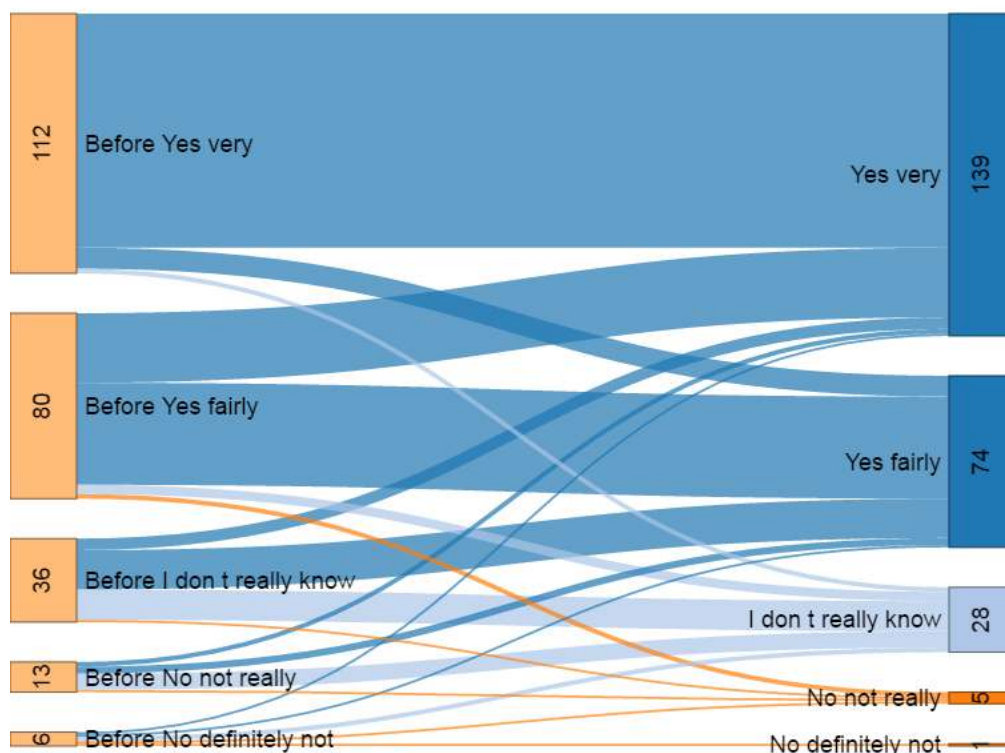
We don't see much change on this question. Students are already excited by science and in general we see a slight increase in interest after the event. This is in line with the findings from other research such as the KCL Aspires Project where they notice that students are interested in science but that it isn't a good indicator of them feeling as though they could be a scientist.

### Are you planning to choose a science subject at the next stage of your education?



Being self-selecting it isn't surprising that a majority of respondents state they want to continue studying science. However it does indicate that a significant proportion of students are firming up their decision to study science at the next level. 64% of students who said they probably will study science now say they definitely will.

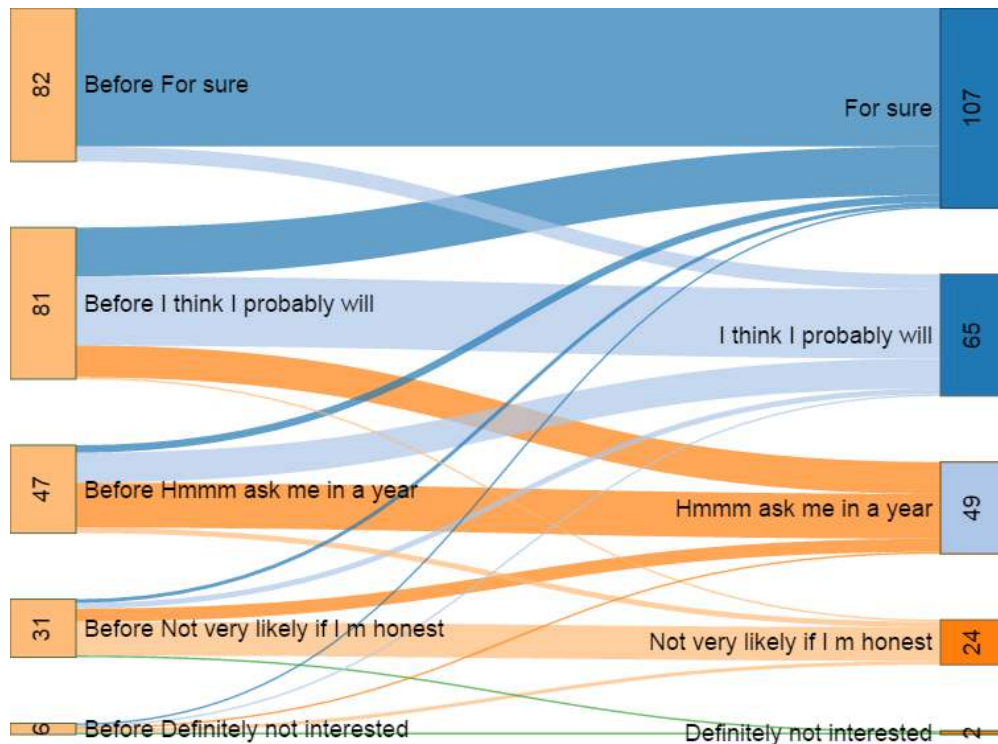
### Do you think jobs involving science are interesting?





Continuing the theme from above we find that students do find science jobs interesting. After taking part in the event that interest is being confirmed. Over half of those who didn't really know now think they are interesting with those who were negative now being more ambivalent about science jobs.

### How likely are you to look for a job that uses you science knowledge and skills?



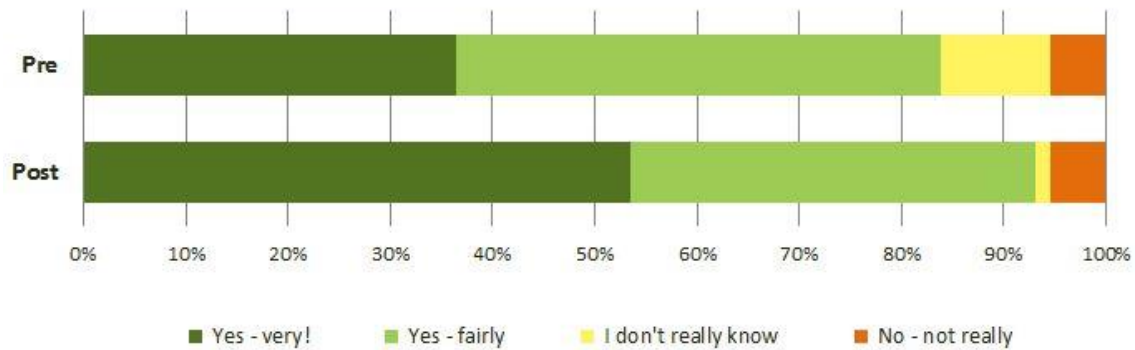
Overall the same proportion of students say they are likely to look for a science job as before. What is most interesting is that 38% of students changed their mind with many student who were positive but not sure changing their mind in equal proportions postively and negatively. One interpretation is that we are helping students decide on whether a science job is an aspiration or not.

### 3.1.b. I'm an Engineer impact

Following the same strategy, we asked students if they think engineers had an interesting job, and whether they'd like to work as engineers, before and after taking part in the event. We gave them a choice of 5 options – from the very positive to the very negative, with a middle neutral one – to reply. 76 students filled in both the pre-event and post-event surveys, and this is what we found out:

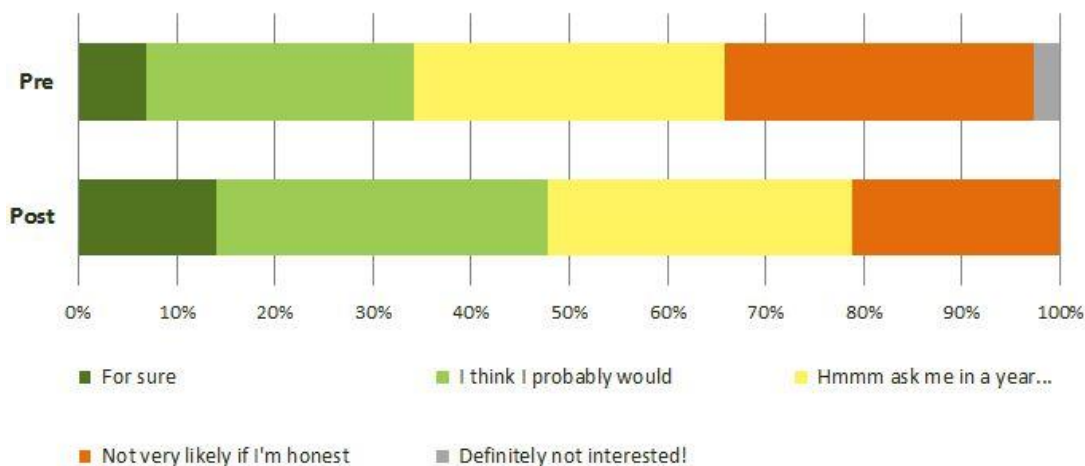
**The percentage of students who thought engineering jobs were “very interesting” went from 37% pre-event to 54% post event.** I'm an Engineer also helped students make up their minds: the 11% of students who “didn't really know” if engineers had an interesting job before taking part plummeted to 1% after the activity. No students who took both surveys replied “No - definitely not!” to this question..

### Do you think engineers have an interesting job?



The percentage of students who wanted to become engineers jumped from 35% to 47%, and the percentage of students not interested in working as engineers decreased from 35% to 21% after I'm an Engineer.

### Would you like to work as an engineer in the future?



In order to measure students' change in understanding of engineering we used a different strategy. Instead of using pre and post event surveys, we asked students to reflect on their experience and state their degree of agreement on whether they know more about different aspects of being an engineer, since taking part in the activity.

Responses from 131 students told us that taking part in I'm an Engineer helped them to improve their understanding of what engineering is and what engineers do. Almost all the students who replied to this question said they knew more about the type of tasks that engineers do, and the type of projects they work on. Only around 10% didn't think they knew more about the skills required to be an engineer, the type of people who work as engineers, and engineers' role in society.

### 3.2. Impact on scientists and engineers

Anecdotally, we've heard of how I'm a Scientist can be a good starting point for science communication activities. This was the case of [Sam Conolly](#) or [Clara Nellist](#), who took part in 2014 and are now putting a great emphasis on the communication side of their science careers. You can read what Sam, Clara and other I'm a Scientist participants from STFC said about the activity in March 2016 issue of Fascination Magazine ([page 12](#)).

**E** After seeing how much you can do online, I was motivated to find more ways I could use the internet to communicate the research at CERN. Now I even manage all of the social media for my experiment, ATLAS." - Clara Nellist

**E** I'm a Scientist is all about school students learning that scientists are just normal people who are really interested in science (...) - anyone can be a scientist. This really encouraged me to use the prize money to talk to as many school students as possible in person". - Sam Conolly

And we also have anecdotes for I'm an Engineer, where we got anonymous participants telling us how taking part was the perfect boost for their science communication activities:

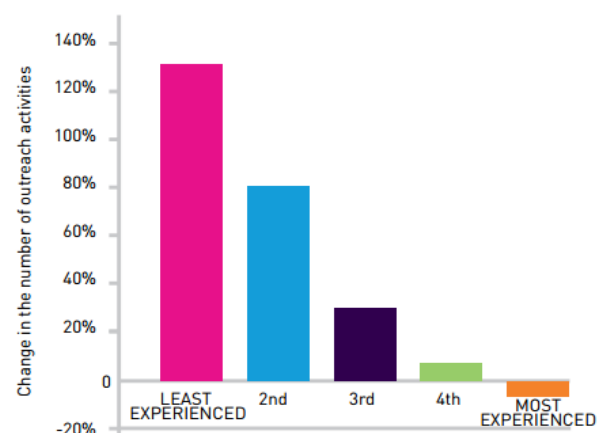
**E** It (IAE) was the kick up the arse I needed to engage with students and set out being a STEMnet Ambassador." - engineer, June 2014

96% of scientists and engineers say they want to do more public engagement, and 95% of them feel more confident communicating their work after taking part in IAS or IAE, but do they really go on and do more outreach after participating?

In November 2013, we sent a long term survey to all scientists at least one year after they took part, and we found out that their good intentions do materialise after the post-event excitement. Responses from 113 scientists showed:

- Scientists who had done very little public engagement (0-3 activities per year) increased their activity by 130%.

	Year before	Year after
Least experienced	1.6	3.7
2nd	5.4	9.9
3rd	11.1	14.7
4th	18.5	19.7
Most experienced	35.6	33.9



- For 60% of scientists, I'm a Scientist represented their first online public engagement activity.
- Unsurprisingly, scientists who were already highly engaged in public engagement did not greatly change their behaviour.

We also found changes in the specific types of outreach done:

- I'm a Scientist is **a good way to start doing public engagement in schools.**
- **Scientists who had already done 4-15 public engagement activities per year did more specific online outreach** (blogs, podcasts, websites) after participating in I'm a Scientist, at the expense of other activities.

### 3.3. Increasing impact - Prize Money spending

I'm a Scientist is the project that keeps on giving; zone winners get £500 to spend on more outreach. **24 of the 26 STFC zone winners have been STFC related scientists**, who use the prize money to communicate STFC related research.

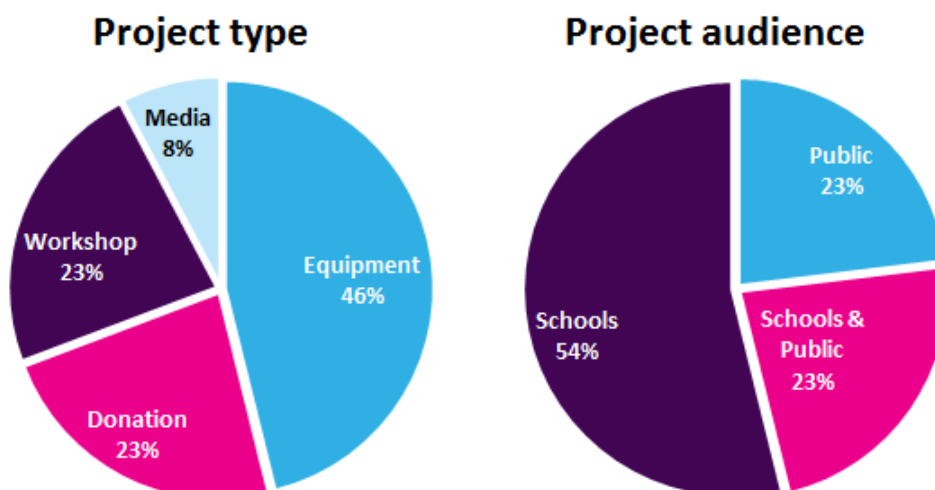
We ask participants to report on the spending of their prize money within a year. We request a brief report on what they've done and a few pictures. See winner reports from STFC zones at: [about.imascientist.org.uk/category/prize-winner/stfcwinner/](http://about.imascientist.org.uk/category/prize-winner/stfcwinner/) & [about.imanengineer.org.uk/category/news/prize-winner/stfcwinner/](http://about.imanengineer.org.uk/category/news/prize-winner/stfcwinner/)

If we analyse what winners from Large Award funded zones up to March 2015 have done with their prize winnings, we find out that £500 can go a long way.

- Buying outreach equipment, like 3D printers, Raspberry pi's, or portable telescopes for school workshops, has been the most popular use for the prize money (46%).
- Schools have been the most popular audience (54%).
- The majority of projects have been based in the UK (92%).

We've estimated that each winner engages an average 200 members of the public, increasing by 50% each zone's audience reach.

See all winners of STFC zones run with the Large Award in the next page.





## I'm a Scientist and I'm an Engineer Winners in STFC Funded Zones



**Emma Dean**  
PhD Student,  
University of  
Southampton  
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March 2016



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Postdoctoral Researcher,  
University of Manchester  
**Crystallography Zone**  
June 2013



**Scott Lawrie**  
Particle Accelerator  
Physicist, Rutherford  
Appleton Laboratory  
**Iridium Zone**  
March 2016



**James Gilbert**  
PhD Student,  
University of Oxford  
**Electromagnetic Zone**  
June 2015



**Hugh Harvey**  
Medical Physicist,  
Institute of  
Cancer Research  
**Light Zone**  
March 2015



**Lisa Simmons**  
Lecturer in Applied  
Physics, Manchester  
Metropolitan University  
**Extreme Temperature Zone**  
November 2014



**Dave Jones**  
ESO Postdoctoral Fellow,  
University of Atacama  
**Extreme Energy Zone**  
June 2014



**Sarah Tesh**  
PhD Student  
University of Bristol  
**Extreme Clean Zone**  
November 2013



**Sam Geen**  
Postdoctoral Researcher,  
The Observatoire de Lyon  
**Extreme Speed Zone**  
June 2013



**Jack Carlyle**  
Solar Physicist,  
Mullard Space Science  
Laboratory  
**Extreme Pressure Zone**  
November 2015



**Sarah Beasley**  
Avionics & Mission  
Systems Engineer,  
QinetiQ  
**Extreme Force Zone**  
June 2015



**Ollie Brown**  
PhD Student,  
Heriot-Watt University  
**Particle Physics Zone**  
March 2015



**Roberto Trotta\***  
Senior Lecturer in  
Astrophysics,  
Imperial College London  
**Astronomy Zone**  
June 2014



**Nick Wright**  
Postdoctoral Researcher,  
Linear Accelerator Lab  
**Extreme Size Zone**  
March 2014



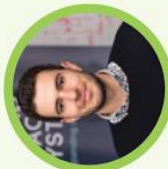
**Kristian Harder**  
Particle Physicist, Rutherford  
Appleton Laboratory  
**Particle Physics Zone**  
November 2013



**Stuart Archer**  
PhD Student,  
University of Sheffield  
**New Materials Zone**  
June 2013



**Lee Margetts**  
Lecturer in Engineering,  
University of Manchester  
**Energy Zone**  
June 2015



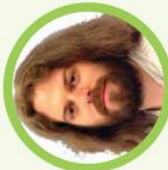
**Norbert Gogiel**  
Aerospace Analyst  
Engineer,  
Oxford Space Systems  
**Kelvin Zone**  
June 2015



**Graham Wiggins**  
Electrical Engineer,  
Central Laser Facility  
**Apprentice Zone**  
June 2014



**Jessica Marshall Housden**  
Spacecraft Systems  
Engineer, BepiColombo &  
Solar Orbiter Missions  
**Space Zone**  
March 2014



**Gary Boorman**  
Physicist Engineer,  
Royal Holloway  
University of London  
**Detection Zone**  
June 2013

\* Roberto Trotta, June 2014 Astronomy Zone winner opted to give his £500 to the runner up in the zone as he already held a public engagement grant.

**I'm an Engineer**  
Get me out of here

**I'm a Scientist**  
Get me out of here





## 4. Learning Points and recommendations

### 4.1. Recruiting STFC scientists and engineers

One of the challenges we have faced running STFC zones has been recruiting scientists and engineers whose work is related to STFC science and technology. Our aim was to recruit not only STFC staff, but also scientists and engineers funded by STFC or using data produced at STFC facilities. For instance, all UK scientists working at, or collaborating with CERN could be successful applicants, as STFC manages the UK contribution to CERN. The difficulty was identifying these scientists once they had applied.

In our application sheet, scientists and engineers can tick a box if they “are related to STFC”. However, we found out that many applicants who we consider related to STFC, don’t identify themselves as such. If we suspect that someone receives STFC funding or uses STFC data, we email them to ask for confirmation. Here are couple of examples:

Ben Bose, who took part in the Gravity Zone in March 2016, didn’t click “related to STFC” although his department at Portsmouth is STFC funded.

Ashley Hughes, who participated in the Tantalum Zone in November 2015, uses data from Diamond in the research work he is carrying at Gothenburg, and he wasn't aware this would qualify him.

In the future, we would recommend to chase people for more accurate information related to their STFC relationship using

onboarding emails with a more detailed explanation of why it’s worth for them finding out and telling us.

#### Chris Armstrong's experience of 'I'm a Scientist' competition

16 September 2015 I'm a Scientist news

Chris Armstrong, a PhD student in RAL's Central Laser Facility, took part in the I'm a Scientist competition in June this year and won the Hafnium Zone, which was sponsored by STFC. This is his account of the competition.

Has someone ever asked you “How will humanity end?” while you’re sat at your desk? How about “If atoms make up everything, what makes up atoms?” while you’re having that morning coffee?

Well me neither, until last June when school students asked me these crackers during the I'm a Scientist. Get me out of here competition.

In this online outreach event I answered questions from students, talked with them in live classroom size chats, and competed for their votes with fellow scientists to win £500. It was an absolute blast from start to finish, and despite the brilliant competition from the other scientists I managed to win my zone. I'll be using the prize money to upgrade the laser demonstration kit used in museum and school tours by my department.

I would recommend giving I'm a Scientist a go to any STFC scientist. It's an entirely different manner of communicating what you do, and it gave me the chance to really practice my communication skills in an informal and grassroots way. The questions are so varied and surprising, not only do you look forward to the next one, you'll still be thinking about them months later.

The live chats also give you immediate feedback on how well you communicate, because if 30 kids suddenly type “huh?” you know you need to explain yourself better.

**Chris Armstrong**

#### Contacts

- Cunningham, Elizabeth (STFC.SO.PROG)
- Armstrong, Chris (Strathclyde,RAL,CLF)

#### Sign up

- I'm a Scientist Get me out of here

#### Find out more

- antony@gallomanor.com

#### I'm a Scientist - November competition

**Apply by 27 September at**  
[imascientist.org.uk/scientists](http://imascientist.org.uk/scientists) for the next event running 09-20 November. The STFC is funding two zones for scientists to be part of.

- A general science zone, which is suitable for all STFC scientists; and
- The Extreme Pressure Zone.

If you'd like to find out more or have any questions, please contact [antony@gallomanor.com](mailto:antony@gallomanor.com) or call on 01225 326892.

We would also work closer with STFC outreach team to use their input when choose zone themes and recruiting scientists and engineers.

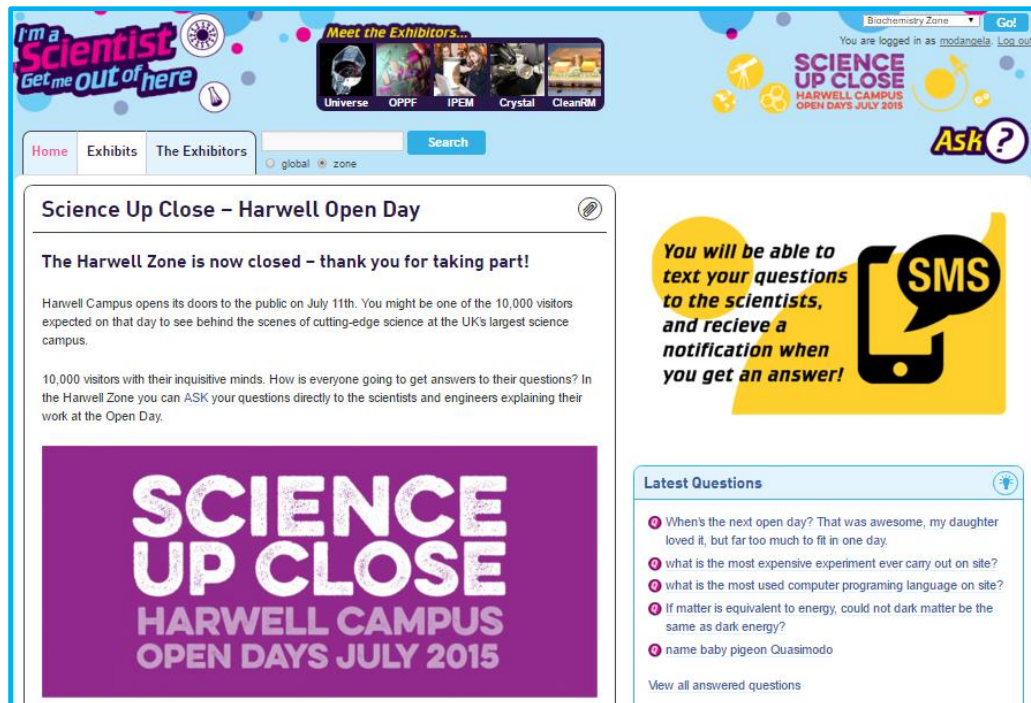
We have also been targeting STFC participants to write blog posts for internal STFC channels, like In Brief newsletter (as an example, see Chris Armstrong's blog post on the previous page).

In line with this, we are currently investigating how to best set up an **alumni network** in which I'm a Scientist and I'm an Engineer participants can ask for help with their outreach plans, send advice to newbies, or simply keep in touch. The network would be mostly alumni driven, but it would also serve as a good platform for us to remind people to talk about I'm a Scientist and I'm an Engineer.

For this particular purpose, we will develop **promotional packs** with everything necessary to promote the events (postcards, powerpoint presentation, copy to include in emails, etc).

## 4.2. Public Zones – Harwell Zone

On Saturday 11th July 2015 the Harwell Research Campus [opened its doors to the public](#). 10,000 people were expected to come and see some of the most complicated and cutting edge science equipment in the world. Hundreds of volunteers working with that equipment were on hand to speak with the public and show them what happens.



We created a [Harwell Zone](#) to allow visitors to text in questions. The logic was that with 10,000 visitors some would not get to ask their questions, or may think of it later, or possibly be too shy to ask in person. It was a family day.

Visitors were able to text a question, get a text back to manage their expectations and a notification when someone answered the question, but we didn't reach the public. There simply was not enough publicity.

The zone wasn't a great success, but it started the development of future zones open to non-school sectors of the public. In the future, we will make sure that:

- We pay more attention to the offline visitor flow. At Harwell many labs had a distinct flow from start to finish. We will make sure that people take away a leaflet offering the chance to ask follow-up questions.
- We use the online zone to supplement the offline experience. At Harwell visitors were invited to view the Diamond Light Synchrotron but there were explainers in there. It was a prime spot to publicise the zone.
- We include information about the zone in the programme notes. People tend to keep the programme notes with them throughout the day and on the way home. That's the time to mop up any unanswered questions.
- We make more of the online zone. We could take feedback, promote new open days, communicate campaigns, point to more resources. The point is that if someone asks a question online they are in effect asking to engage in conversation. Same as offline. The difference being that online you have the ability to invite the visitor to restart that conversation at any time in the future.