



I'm a Scientist, Get me out of here

November 2012 – evaluation report

The screenshot shows the 'I'm a Scientist, Get me out of here' website interface. At the top, there's a navigation bar with 'Zone Home', 'My Profile', and 'Scientists'. A search bar is also present. The main content area features a 'Meet the Scientists...' section with a row of five scientist portraits: Shane, Naomi, Eileen (marked 'WINNER!'), Andrew, and Aggelos. Below this, there are five individual scientist profiles, each with a photo, a 'Me and my Work' bio, a 'Status' update, and a 'Read more about me' link. The profiles are for Shane Bergin, Naomi Elster, Eileen Diskin, Andrew Jackson, and Aggelos Zacharopoulos. Each profile also includes a 'Latest Question' and 'Latest Comment' section. The website is themed for 'Hydrogen Zone'.



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1.0 Summary and reflections

This was the first time we've run *I'm a Scientist* in Ireland and it was a real pleasure.

1. The enthusiasm for the event shown by teachers, students and scientists was magnificent

The Irish science community really got behind *I'm a Scientist*. There was a lot of support on twitter before, during and after the event. We were oversubscribed with schools wanting to take part, and had to turn a few away as they kept applying right up until the event, when we'd filled all the class places. Teachers took to twitter through the event:



The Frog Blog
@TheFrogBlog



Following

Congratulations to the brilliantly engaging @EBDisco on winning @imascientist's Irish Hydrogen Zone. She makes flamingo bums cool! #iasie

The scientists were enthusiastic, fun, sociable and engaging. They organised to meet over drinks to meet in the flesh. One scientist, Space Zone winner Paul Higgins, did a lovely interview after the event: sciencecalling.com/2012/11/23/primary-school-students-pick-top-scientists

The support from various institutes around Ireland was superb. We felt the event was greatly anticipated and we believe it met those expectations.

2. The students really got into the spirit of the event.

The students were very interested in the scientists themselves, with lots of questions about education and leisure pursuits. The themed zones encouraged discussions around that topic, from cancer, parasites and bacteria in the Health Zone to all areas of space in the Space Zone. The students really focused in on each scientist's research area and asked questions about that.

The students were fun and a bit cheeky – this was picked up on by the scientists who often had fun with their answers.

3. We would love to run more *I'm a Scientist* events in Ireland.

We think *I'm a Scientist* worked very well in Ireland. It translated well to the Irish curriculum, and got students talking to scientists. Teachers, students and scientists have told us it works too. We plan to find funding to run it again, hopefully on a wider scale to give more students and scientists the chance to interact.

2.0 Introduction

I'm a Scientist is a science engagement event that's been running since 2008 in the UK. In that time we've had a fair few Irish scientists take part, and a handful of Irish schools. But not as many as we would like.

Gallomanor were awarded funding to run *I'm a Scientist* in Ireland as part of Dublin City of Science 2012, in November 2012. 3 zones were run – two themed on Health and Space and one general Hydrogen Zone with a mix of 5 scientists. There was additional sponsorship for the Space Zone from ESERO Ireland.



I'm a Scientist is an X Factor-style competition for scientists, where students are the judges. Scientists and students talk online at imascientist.ie. Scientists and students break down barriers, have fun and learn. But only the students get to vote. The event runs for two weeks at a time.

There are three main parts to the event – ASK, CHAT and VOTE.



Students ASK questions which the scientists then answer in their own time.



Scientists CHAT online with students, answering their questions and hearing their opinions.



Students VOTE for the scientist in their zone they think should win a prize of €500 to communicate their work

2.1 Outcomes

In the application we set out a number of outcomes:

Outcomes

1. Students get a better understanding of how science is practiced
2. Stereotypes about scientists are smashed showing them to normal human beings to whom the students can relate
3. Students learn that science is about debate and consensus not just facts
4. Students get inspired to study science
5. Scientists get to understand what students think about their field and science in general
6. Scientists get lots of practice and opportunity to improve their communication skills

Evaluation questions

1. Do the scientists view their participation as a positive experience? ✓
2. Have they / do they think they have improved their communication skills? Particularly, but not solely, in terms of online and young people. ✓
3. Has the event changed students' perceptions of science? ✓

Intended project outcomes

Outcomes for scientists:

- Awareness: learn that young people are interested in their work and that they want to engage with scientists
- Attitudes: Public Engagement is enjoyable, worthwhile and useful to them as scientists. To feel that online engagement is as useful and enjoyable as offline methods.

Outcomes for students:

- The students find the event enjoyable, interesting, informative, interactive and well organised.
- Awareness: change students' perceptions of science. They learn about the wide range of opportunities in science, and that careers in science are suitable for them. Learn about the social impact of science.
- Attitudes: realise that scientists are human.

Outcomes for teachers:

- The teachers find the event enjoyable, interesting, informative, interactive and well organised.
- The teachers benefit from taking part in terms of their teaching methods, and understanding their students' views of science.
- Teachers think their students have benefited from taking part.

2.2 Methodology

This evaluation used a combination of quantitative and qualitative data and methods, including:

Pre and post event online surveys for scientists, teachers and students. All scientists and teachers are asked to complete the relevant pre-event survey, and everyone (students included) is asked to complete the relevant post-event survey straight after the event. Student completion is incentivised with one student (chosen at random) winning a €30 iTunes voucher. Slightly different versions of the surveys were produced for each group. 11 scientists responded to the post-event survey, 11 teachers and 36 students (out of the 15 scientists, 33 teachers and 809 students who took part).

Sampled telephone interviews with two scientists and two teachers.

Analysis of basic web statistics on site usage allows us to benchmark against sister events, against future events and to compare zones.

School analysis, location in Ireland and a comparison between schools and teachers who register but don't take part, and those who actively participate.

Scientist analysis to check that we have a broad range of scientists in terms of age, discipline, career stage and place of employment.

3.0 Key figures

3.1 Key figures from the event

Being online there is a vast amount of data we can collect about the event. The table below shows data for *I'm a Scientist* in Ireland in November 2012, compared to the *I'm a Scientist* event that was running in the UK at the same time, also with 3 zones

Key figures from *I'm a Scientist* in November 2012, for the Irish and UK event.

	Ireland zones average	Ireland event total	UK zones average	UK event total
Number of scientists	5	15	5	15
Number of registered students	270	809	286	859
Number of schools	10	31	10	29
% of active students (ASK, CHAT, VOTE or comment)	79%	-	79%	-
Number of questions asked	499	1,498	383	1,148
Number of questions approved	230	690	176	529
% of questions approved	46%	-	46%	-
Number of questions marked as duplicates	100	300	66	197
Number of answers given	487	1,461	507	1,520
Total number of comments	75	225	75	224
Number of votes	228	683	211	632
Number of live chats	13	38	12	36
Number of lines of live chats	3,166	9,499	4,381	13,144

Over the event there were over 24,000 page views from over 3,700 visitors – that's nearly 3,000 visitors looking at the site on top on top of the scientists, students and teachers taking part.

3.2 Levels of engagement

The extent of engagement of scientists and students can be measured using data collected from the site and post-event surveys. Figures from *I'm a Scientist Ireland* are in the green boxes, and figures from *I'm a Scientist UK* (which ran at the same time) are in the blue boxes for comparison.

11 of the 15 Irish scientists filled out the post-event surveys and just 4% of students (36 out of 809) filled out the student survey. The link to the feedback survey was sent to students in an email announcing the winner their zone. We also encouraged teachers to get their classes to fill the survey out. However completion of the survey was (near unavoidably) self-selecting, which could skew the data towards the keen students who aren't representative of the whole student population.

79% of students that registered on the site actively participated by asking a question, taking part in a live chat, leaving a comment or voting.

79% of students actively participated

100% of students who filled in the feedback survey found *I'm a Scientist* interesting.

98% of students who filled in the feedback survey found *I'm a Scientist* interesting.

100% of students who filled in the feedback survey would recommend *I'm a Scientist* to their friends.

95% of students who filled in the feedback survey would recommend *I'm a Scientist* to their friends.

90% of scientists who filled in the feedback survey would take part again.

77% of scientists who filled in the feedback survey would take part again.

91% of scientists who filled in the feedback survey would recommend the event to their colleagues

94% of scientists who filled in the feedback survey would recommend the event to their colleagues

The scientists gave 1,461 answers to 690 questions; an average of 2.1 answers per question.

The scientists gave 1,520 answers to 529 questions; an average of 2.9 answers per question.

62% of votes were cast in the 1st round, 11% in the 2nd, 14% in the 3rd and 13% in the final round.

56% of votes were cast in the 1st round, 13% in the 2nd, 11% in the 3rd and 20% in the final round.

The winning scientists picked up on average 40% of the votes in their zone, although this figure ranged from 38% to 44% of votes across the zones.

The winning scientists picked up on average 39% of the votes in their zone, ranging from 34% to 49% of votes across the zones.

9,499 lines of live chat were written by scientists and students in the 31 live chats, averaging 306 lines per live chat and over 3,000 per zone.

13,144 lines of live chat were written by scientists and students in 29 live chats, averaging 453 lines per live chat and just over 4,300 per zone.

The Irish event was slightly quieter than the equivalent UK event running at the same time. This isn't unexpected, as the events get busier as they progress and are run more times. Teachers who have taken part before know how it works, and how to encourage their students to take part.

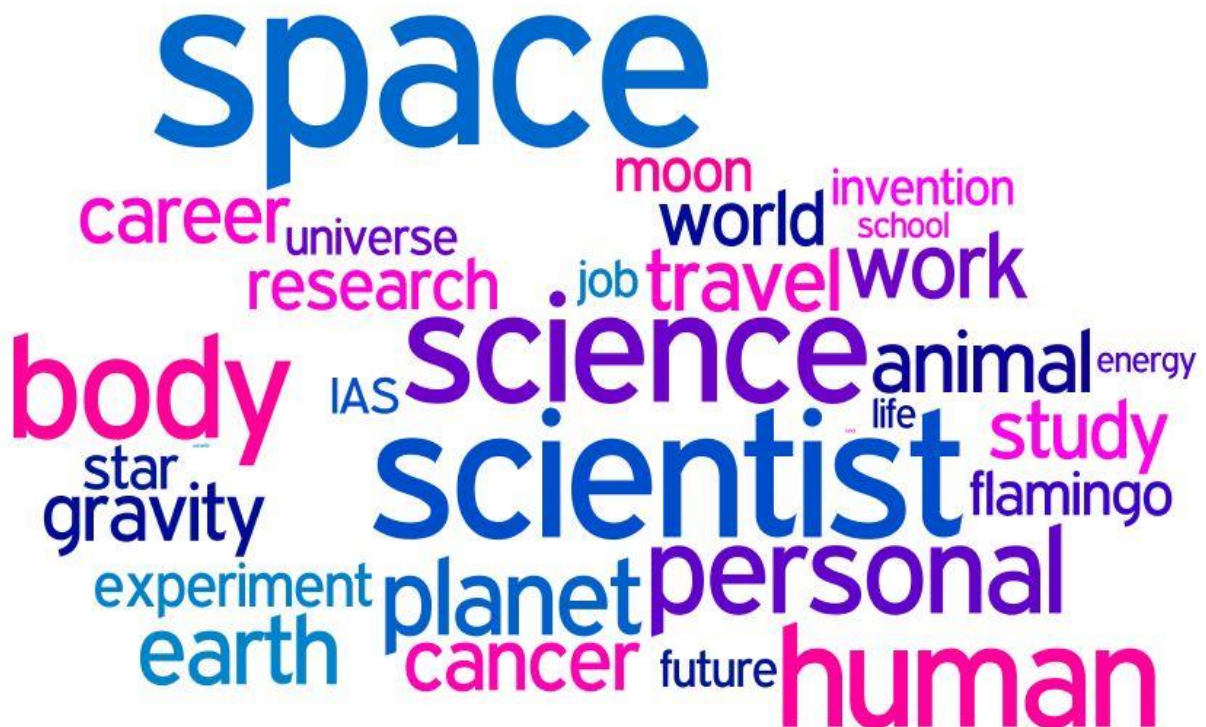
3.3 Popular topics covered

The wordless bellow show the main themes that came out in the live chats and questions.

Keywords from live chats in the 3 zones. The size of the word represents its popularity.



Keywords of questions asked in the 3 zones. The size of the word represents its popularity.



The three zones had different question focuses.

Health Zone

There were lots questions about health and cancer; what's good for you & what's bad for you, healthy foods, sweets, and why our bodies do things. Topics of discussion in the live chats often depended on which scientists were there, and then there were lots of questions on their work: [Enda](#)'s robot Janus and finding cures for cancer, [Jean](#) got a lot of questions about baking and chemistry, [Tim](#)'s work with parasites & [Kev](#) on bacteria

Hydrogen Zone

There were lots of great questions on all areas of science, and also some interesting chats on God and creation. Refreshingly there were few of the "obvious" questions like "why is the sky blue" & "why can't penguins fly". A lot of questions were semi-personal, "why did you want to become a scientist" & "do you like being scientist" which the students were grateful to have answered.

The scientists' research areas attracted lots of attention – most noticeably [Eileen](#)'s flamingo questions! [Andrew](#) took the brunt of questions about religion which the other scientists tended to ignore, [Aggelos](#) got a lot of thoughtful environmental questions particularly about solar panels, [Shane](#) got some nanoscience questions and [Naomi](#) got mostly questions on cancer and finding a cure.

Space Zone

There were lots of "can you do this in space" questions: can you play the drums, can you shoot a gun, can you build a house, can you spit, is there internet in space, can you moonwalk etc. There was a lot of chat about space travel and becoming an astronaut, science in school and the leaving certificate, as well as a couple of dinosaur and invention questions too.

The scientists got lots of questions about their work, which often shaped discussions in the live chats: [Paul](#) on explosions and the sun, [David](#) on Mars and space travel, [Arlene](#) on nanoscience and microscopes, [Colin](#) on space travel and technology & [Eugene](#) on new theories and studying.

4.0 Scientist evaluation

4.1 Breakdown of scientists taking part

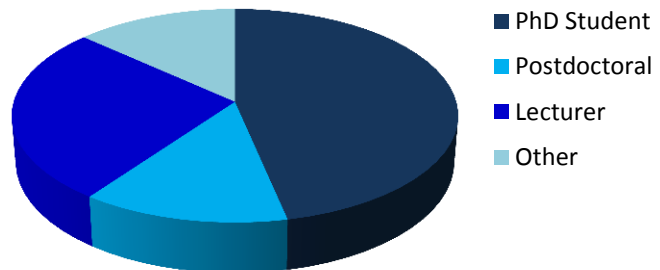
Gender

Of the 15 scientists that took part, 66% were male and 33% were female. 2 of the winners were male and one was female.

Work sector

13 of the 15 scientists were academic – 46% were PhD students, 13% postdoctoral researchers and 27% were lecturers. The other 2 called themselves ‘other’.

The sectors that the scientists work in



Work place

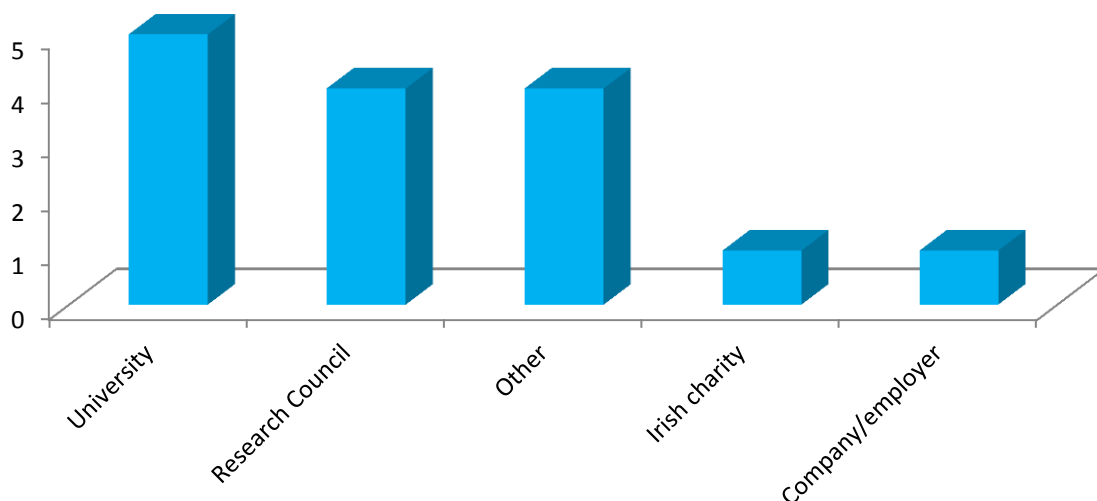
13 of the 15 scientists worked in Universities, and one worked in Armagh Planetarium and one at Beaumont Hospital (RCSI). The represented universities are listed on the right. 2 of the scientists were in Northern Ireland and 13 were in the Republic of Ireland.

University	Scientists
Trinity College Dublin	6
University College Cork	2
NUI Galway	2
University College Dublin	1
University of Ulster	1
ITT Dublin	1

Funding

Scientists were fairly evenly split between funding from a Research Council, other, or by their University, which is unsurprising as the majority work in academia.

How the scientists are funded



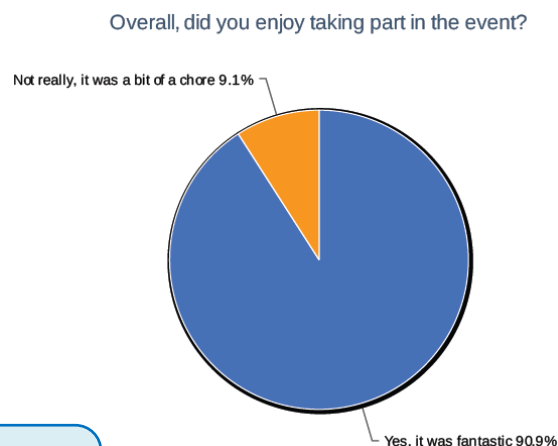
4.2 Feedback from online surveys

We asked all the scientists to fill in an online feedback survey after the event ended. We emailed reminders out and 11 out of the 15 scientists filled it in.

Evaluation question: Do the scientists view their participation as a positive experience?

The scientists who responded to the post-event survey were positive about their participation; 91% said it had been a 'fantastic' experience and the remaining 1 scientist was less keen, saying it 'was a bit of a chore'.

All of the scientists said they want to do more public engagement, and 90% are now more energised about their work. 10 out of 11 would recommend it to a colleague and participate again.



"i love the direct nature of this program - linking the student with the scientist in a very direct manner."

Scientist

Evaluation question: Have they / do they think they have improved their communication skills?

All of the scientists thought taking part improved their communication skills, and all but one were more confident in communicating their work after taking part. All but one of the scientists who responded had a better understanding of how students view science. The scientists mentioned how they were learning through the event.

"it combined live chats with submitted questions, making it great for engaging with students in multiple ways (i.e. students who might have been too shy to 'chat' still got to ask questions)"

"i reckon those are my two favourites [questions] so far... largely because i hadnt a clue what the answer was, and they were clearly not stock questions lifted off some website somewhere"

"yeah, ive learned loads. Met shane bergin for coffee this mornign so have made new friends and contacts too. Its been hectic, but lots of fun"

Andrew Jackson, Scientist

However only 30% of scientists are now more confident in using online tools, as the remaining 70% disagree with this statement.

Outcome: Did scientists learn that young people are interested in their work and that they want to engage with scientists?

The scientists noted that they got some great questions from students, as well as silly ones, and personal ones which some scientists didn't enjoy as much as others.

"I was also struck by the depth of some of the questions getting asked- it showed that a lot of the students really sat down and tried to ask profound questions about space"

"I was totally amazed by you guys... by your enthusiasm, by your excitement, and most of all, by the amazing questions that you asked"

"I had an amazing experience and that was down to the enthusiasm shown by [the students] for Science, both weird and wonderful!"

"Questions are great, some are tough and I find myself learning some new things!"

"on occasion the students could be abusive and ask personal questions, also there were too many questions and not enough scientists to answer them"

"I really miss the chats with the students, the chats with each other and the mods afterwards, and answering the questions in the evenings. Every day I hear or read something that I think the students would be interested in or could be used in an answer to one of their questions. It's kind of sad really, back here in the real world. I think I'm suffering from a mild case of post-traumatic stress disorder".

Enda O'Connell, Scientist

Outcome: Do scientists think that Public Engagement is enjoyable, worthwhile and useful to them, and that online engagement is as useful and enjoyable as offline methods?

When asked how *I'm a Scientist* compared to other forms of STEM engagement or dialogue they might have been involved in, the majority of scientists thought *I'm a Scientist* was much more direct, reached a wider audience, was more varied in subject content, more immediate and interactive, and students were much more willing to ask questions.

"much more exciting and engaging. When you give a talk, sometimes you get no response..."

"The online component was pretty much totally new to me; I've done a lot of environmental education 'in real life' but this was the first intensive online engagement activity I've done."

"I have only been involved in science engagement via presentations to schools and hosting school tours before. It was much more enjoyable than either of these as the students seemed more engaged with the process, than when they are standing/sitting in front of you"

"It is a novel way of engaging school children directly with scientists. I think it could also be used to market University courses and compliment University open day events."

"Its completely different to anything else I've done before, but I really thing there should be a lot more of it."

Scientist

Improvements to the event

Some scientists mentioned that it took more time than they thought and that there were too many questions during live chats.

"I felt that the estimate of how much time it would take to answer questions was misleading."

"Yeah it was quite good. I put an awful amount of time into it, would have to see the benefit to the children to see if it was an efficient use of time. It is easy to notice that lot of questions come from the same students, so while you are reaching people in the chats, how many are engaged with the full thing. Then it could be compared to hands on engagement activities"

At times it was a bit like being in front of a class with everyone talking at me at once. Since the students largely ingred the Mods, it was difficult to regulate. That said, it worked and worked well, it was just a different experience. I enjoyed the slightly frenetic pace to be honest."

"when it was just 1 or 2 scientists in the room, some students were getting annoyed that their questions weren't answered."

Scientists also made suggestions on how the site can be improved, which we will work on to make it easier to navigate.

"Click on student name would put it into your text box to save copying and pasting @scienceWutLoIDanlgeberry_45323 continously, when answering questions."

"I constantly found myself getting lost on the site and not being able to get to where I needed to be."

"I think a little more information about the voting procedure would be useful, i.e. did the votes from the chat and the questions combine or were they separate votes and did each student get to vote more than once."

"It was hard to browse the site to look for the chats available and or the ones i had signed up to"

It's worth noting that whilst we sent reminders, filling out the survey was self selecting which can introduce bias, but is hard to avoid.

4.3 Feedback from telephone interviews

We spoke to two scientists who took part in the event to hear first-hand about their experiences. Shane Bergin was in the Hydrogen Zone and Jean Bourke took part in the Health Zone.

Both said they enjoyed the experience: *"great, great, great" "thoroughly enjoyable. I love the concept; I hate the distinction made between scientists and normal people. I think students don't get that we're normal people"*.

Shane said he had high expectations because of information he received from Imperial College colleagues and the involved application process, though he had thought that the chats would be spoken. Jean on the other hand said she didn't go in with any expectations.

Shane said: *“Normally you go to schools to give a demo with bells and whistles but IAS was all about the questions.”* He thought that ASK was more worthy of time and consideration but understood that CHAT was important for the students. Jean felt that long in-depth questions could jar the chats, but said that overall *“it was really good to see the questions people had, they didn’t hold back, genuinely just asked stuff they were curious about.”*

“Great range and depth”

Both were impressed with the questions: *“Great range and depth” “calibre was surprisingly high, because they’re quite young, they were quite insightful at times”*. Both also noted the time commitment required, however this wasn’t a problem for either of them. Shane said he spent over an hour a day on IAS, *“and that is a lot of time, but given willingly”*. Jean said it was *“slightly hectic, productivity plummeted at the time”* but that *“it was well worth the time I invested in it”*.

Shane felt that IAS had helped with his communication skills. Jean explained that she has considerable experience already as she teaches science communication to undergraduates, *“I can imagine if you didn’t have my background [your communication skills] would improve fairly rapidly”*.

Jean suggested improving the event by having a confirmation system for schools in the chats. Shane suggested a series of short timely emails to replace the briefing notes, and also a training/introduction session before to meet the other scientists.

What the scientists learnt

Jean said that she learnt a lot herself while taking part: *“I made sure to look up papers and answer properly. Friends think I’m some kind of weird encyclopedia thanks to stuff I learnt through IAS.”* She said, *“I’d love to do something like that on a permanent basis, I love making science accessible”* and emphasised the overall benefits of the event: *“If you can inspire students to have this interest, there is stuff we still don’t know that they could work on. If you’re teetering, this is the kind of thing that could get you into it”* adding that *“the whole experience was absolutely fantastic”*.

5.0 Schools evaluation

5.1 Breakdown of schools taking part

43 teachers were given places in *I'm a Scientist*. All the class spaces were filled and we had to turn a few schools away as we didn't have any places left. We expect a drop out rate of around a third due to timetable changes, exam preparation and illness. However this was less in the November event as only a quarter of teachers dropped out. 26% of teachers who were given places didn't show up, and teacher used 60% of teacher packs sent out.

School type

29 of the schools were secondary schools, and 3 primary schools.

School location

3 of the schools were in Northern Ireland, and the remaining 29 were in the Republic of Ireland. The map shows the distribution of schools and scientists in Ireland. There's a large cluster of schools in Dublin but there are others spaced around the country.



Locations of scientists (blue) and schools (red) in Ireland in *I'm a Scientist* in November 2012

5.2 Teacher feedback from online surveys

We asked all the teachers to fill in an online feedback survey after the event ended. We emailed reminders out and 11 teachers filled it in (34% of teachers that took part). This sample gives an indication of their views.

Outcome: Did teachers find the event enjoyable, interesting, informative, interactive and well organised?

All the teachers who responded would participate again and recommend taking part to a colleague.

"Only joined up on a whim but am delighted I did. Thanks to all involved"

"The scientists engaged really well with the pupils. They communicated effectively, getting down to the level of my pupils (11 years old)".

"The classroom environment was enriched through the use of I'm a Scientist. The children are more aware of science as a subject and as a career. Thanks to everyone involved. I will definitely be recommending the event to my colleagues and friends alike."

"Great event. Well organised and very rewarding."

"A student who normally struggles in science and school in general coming to school one day and smilingly handing me a printout of her question and the answer she received, saying, 'this is your copy' while she walked away with her own to put it in her folder."

Teacher

Outcome: How did teachers themselves benefit from taking part?

All of the teachers who gave feedback were satisfied with the event and found it easy to implement. All but one are now more aware of their students' attitudes to science. 55% are now more confident in using online tools in lessons, and 45% are now more confident teaching the scientific method. When asked what the single most important outcome for them as a teacher was, they gave varied answers:

"The live online chat with real scientists"

"Interaction with the scientists by the students"

*"Students engaged in scientific questioning"
(2 teachers)*

"The children applied their prior learning in the area of Space and extended their learning through the use of I'm a Scientist."

"That the students saw scientists as people who were light hearted and not too serious"

"The excitement that the students displayed when they were taking part in the live chat" (2 teachers)

"The positive interaction between the children and the scientists meant that they were extremely enthused by science"

Outcome: How do the teachers think their students benefited from taking part?

All teachers who responded said their students enjoyed the event (10 out of 11 strongly agreed). 82% think their students are more aware of careers in science. All teachers think that their students have a more positive view of science, are more excited about science and are more confident in asking questions about science.

“Excellent - my pupils really got involved and asked loads of questions. Some were general questions but most were specifically about the scientific research being carried out.”

“They are very interested now in anything scientific we discuss.”

“just invite us again!”

“Thanks for organising ‘I’m a Scientist’. This was the first year our school got involved and mine was the only class to participate, however the response from the pupils was so good that we’re keen to get more classes involved in future events”

“my pupils especially enjoyed the Live Web Chat, and some were proudly coming into class on other days, bursting to tell me that their questions had been answered.”

“it got pupils interested and talking about real-life science. Hopefully this interest will motivate them to pursue science at a higher level”

Teacher

5.3 Teacher feedback from telephone interviews

We spoke to two teachers who had classes taking part in the event to find out what they and their students thought of the experience. Humphrey Jones’ students were in the Hydrogen Zone, and Mohammed Nissar had classes in the Health Zone. Both teachers enjoyed the event and said they would take part again: *“I’d jump on it again. We’d definitely be interested as a school.”*

Humphrey said that he was familiar with the event from afar but that the actuality still exceeded his expectations. He explained how students got more involved than expected from the very start, particularly 15 and 16 year olds who he expected to be quite cynical about the live chat, saying it was *“quite extraordinary”* how involved they got: *“It was silent. Just the noise of typing.”*

Both teachers found the teacher packs useful: *“Excellent preparation, the debate kits were brilliant, especially for older students, and especially for boys taking protein shakes!”* *“We did the drugs debate kit and found it really useful”*. Mohammed said that a lot of his students went home and asked questions thanks to having their own log in cards.

Humphrey felt that the main strength of the event was getting all of the students equally involved, and he said it was excellent for quiet students to get more involved in discussion: *“It gave them the courage and platform to speak up and ask insightful questions. It was a level playing field, and they shone.”* He described how good it was for confident students to see quiet students speak up and get

attention. One student had just arrived from Nigeria to start at the school and her very first lesson was the live chat. Instead of being the quiet new student finding her feet, she got involved as much as everyone else.

Mohammed said that in the past they have had scientists visiting from companies such as Intel, but that a lot of his students lose interest, whereas with IAS *“each kid had an interest in something”*. He said, *“I always try to show kids how science is relevant, how it’s in their lives, just to make them aware it’s not just people in lab coats.”* The main strength for Mohammed was *“the fact that they could see the scientists and what they did”* and that the students could speak to the students in real time. *“Feedback from the kids was all positive – they enjoyed that aspect of talking to lots of scientists.”* In some end of year feedback Mohammed said that *“80% of kids mentioned IAS”*.

Both teachers felt the online format was great: *“very effective, [the students were] very surprised to see scientists using it just like them”* *“we’re very into ICT and encouraging its use as a medium to educate”*. Both also agreed that the event was great for year 7 students (age 11-12), though Humphrey thought it was great for 15 and 16 year olds as well.

They felt the timing was very good: *“During science week – brilliant. Science week is a big deal in Ireland, so I pitched IAS as a big event. Definitely stick with it [the timing]”* *“November is perfect. Possibly the end of February or end of April/start of May”*

When asked for improvements all Humphrey suggested was longer live chats. Mohammed suggested the scientists put videos and/or more photos up on their profiles to show more clearly what they do, and the equipment they use, on a daily basis: *“common questions were on equipment, but these were a bit lost through translation.”* He acknowledged that the scientists give up their time voluntarily to take part, but felt that more videos and images rather than just writing on the profiles would help students with lower literacy levels.

5.4 Student feedback from online surveys

39 students filled in the online feedback survey, which was emailed to them after the event.

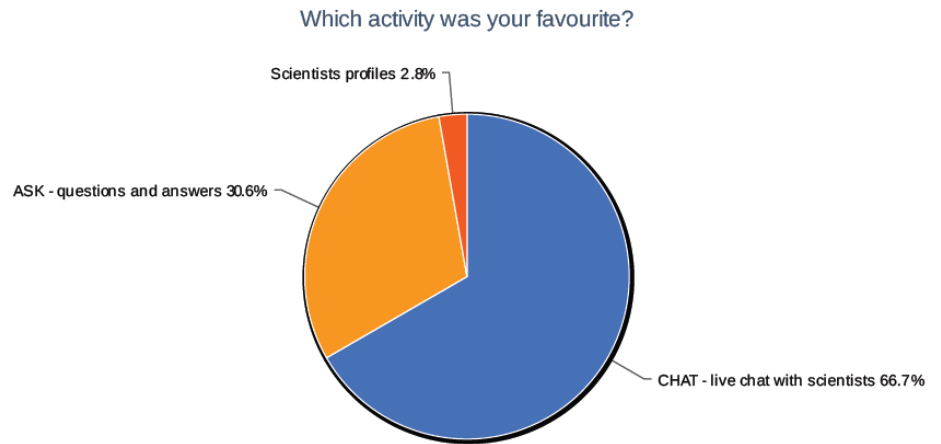
Outcome: Did the students find the event enjoyable, interesting, informative, interactive and well organised?

All the students who gave feedback found *I’m a Scientist* interesting and enjoyed taking part in it. They would all recommend it to their friends. 97% found the website easy to use and 78% used the website at home as well as at school.

“this is a great idea for students to become more involved with science, and it was very informative with career choices out there involving science. It was great fun and wish it didn't end so quickly. Thanks :)”

“I wanted to say thanks for such a cool website where i got to find out a whole new bunch of things about science. There was nothing i disliked because i really loved it alot.thanks”

Two thirds of students said the live chats were their favourite activity on the site. Lots of students liked the ASK section and one liked the scientist profiles the best.



Outcome: Are students now more aware that scientists are human?

Students commented on how they got to speak with real scientists, and were very grateful the scientists took the time to speak with them.

"I liked the idea that the scientists were helping people with the money if they one."

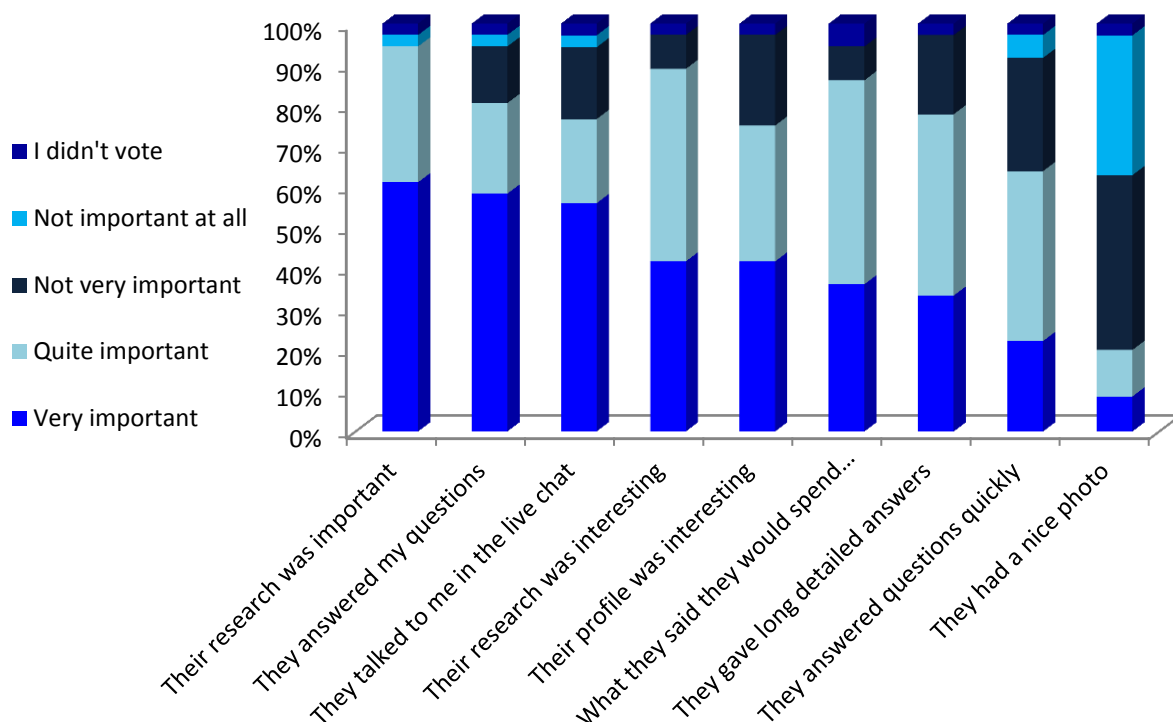
"byeeeeeeeeee :) you've inspired me loads!!!! #scienceFTW"

"thank you for ansring my questoins and your time"

The students were asked what they thought was important when they voted for the scientist they wanted to win the €500. The results below show that students thought that the scientists' work being important mattered more than it being interesting. What the scientists said they would spend the winning money on was important overall. Only 20% of students thought that having a nice photo was important. The students were engaging with what the scientists were doing rather than using superficial judgements to decide who won.

The students were also more influenced by having their question answered and being talked to in

What students found important when voting for scientists



a live chat than how quickly the scientists answered their question or how long and detailed the answer was.

Evaluation question: Has the event changed students' perceptions of science?

Teachers, scientists and students thought that *I'm a Scientist* changed the students' perceptions of science and scientists. This ranged from students realising that scientists are normal people, to finding out more about what scientists actually do and considering science as a future career. 89% of students now understand what scientists do better.

"it was a really enjoyable way to 'open' pupils eyes to what is possible. I hope to get involved again next year" – Grainne Gillespie, Teacher

"I think it really helped students understand what scientists do for their job and it was great fun, thanks" – Student

"Well done to all the students ... who took part for some great questions and brilliant chats. Best of luck in all your future endeavours. I hope to see some of you in a labcoat soon!" – Enda O'Connell, Scientist

"The event was fantastic and sooo intresting!! found out about things that i never knew existed!From now on i will definetly think twice about a career in science!!"

Student

6.0 Appendices

Appendix 1: Teacher pre-event survey

1. How did you hear about I'm a Scientist? (tick all that apply)

- I've taken part before
- From another teacher
- From my local area science co-ordinator
- Found the site in an internet search
- Twitter
- Email from IAS as I'm signed up for Debate Kits
- Email, newsletter or online article from a science organisation
- Paper publication from a science organisation
- Through Science Foundation Ireland
- Other (please explain) Please enter an 'other' value for this selection.

2. What appeals to you most about I'm a Scientist?

3. Please rank the following outcomes in terms of importance for you as a teacher (the most important at the top to least important at the bottom).

Drag items from the left-hand list into the right-hand list to order them.

<input type="text"/>	Students are more excited about science
<input type="text"/>	Students are more aware of careers in science
<input type="text"/>	I am more confident in teaching the scientific method
<input type="text"/>	Students are more confident in debating science issues
<input type="text"/>	I am more confident in using online tools in lessons
<input type="text"/>	Students have a more positive view of science
<input type="text"/>	I am more aware of cutting edge science
<input type="text"/>	Students are more confident in asking questions about science
<input type="text"/>	I am more aware of the insights my students have into science
<input type="text"/>	Students have a more nuanced view of science
<input type="text"/>	I will gain ideas for teaching in the future

4. Is there anything else not mentioned in Question 3 that you're expecting as an important outcome?

5. How are you planning to run I'm a Scientist?

- In lessons as part of the scheme of work
- In lessons as enrichment
- Outside lessons as part of a themed day/week
- Outside lessons in a STEM club
- Other - tell us how Please enter an 'other' value for this selection.

6. What year group(s) of students are you planning to run I'm a Scientist with?

- Third Class
- Fourth Class
- Fifth Class
- Sixth Class
- First Year
- Second Year
- Third Year
- Transition Year
- Fifth Year
- Sixth Year
- STEM Club
- Other Please enter an 'other' value for this selection.

7. Have the class(es) you're running I'm a Scientist with taken part in any of the following science enrichment projects?

- CREST Awards
- School visit from a scientist
- I'm a Scientist, Get me out of here! previously
- Visit to a local science centre/museum
- Visit to a science festival
- Other - tell us what Please enter an 'other' value for this selection.

8. Have you taken part in any of the following science enrichment projects?

- CREST Awards
- School visit from a scientist

- I'm a Scientist, Get me out of here! previously
- Visit to a local science centre/museum
- Visit to a science festival
- Other - tell us what Please enter an 'other' value for this selection.

9. How many lessons do you plan to spend on this project?

- 1
- 2
- 3
- 4
- 5+

10. Are you planning on also running other major science enrichment activities over the next few months? If yes, tell us what

- No
- Yes - tell us what Please enter an 'other' value for this selection.

Appendix 2: Scientist pre-event survey

1. How did you hear about I'm a Scientist

- From a previous participant
- From a university/research institute
- Through the company I work for
- From Science Foundation Ireland
- From a professional association (e.g. learned society)
- From a STEM outreach organisation
- Twitter
- Found the site in an internet search
- Other (please explain) Please enter an 'other' value for this selection.

2. What appeals to you most about I'm a Scientist?

3. Please rank the following outcomes in terms of importance for you (the most important at the top to least important at the bottom).

Drag items from the left-hand list into the right-hand list to order them.

<input type="text"/>	Being more aware of what other scientists do
<input type="text"/>	Becoming more confident in communicating my work
<input type="text"/>	Developing links with other scientists
<input type="text"/>	Students becoming more engaged with science
<input type="text"/>	Having a better understanding of how students view science
<input type="text"/>	Winning €500 for a science communication project
<input type="text"/>	Becoming more confident in using online tools
<input type="text"/>	Students becoming more aware of careers in science
<input type="text"/>	Becoming re-energised about my work

4. How confident do you feel about communicating with young people?

- Very
- Reasonably
- A bit
- Not at all

5. How confident do you feel about discussing social, ethical and environmental implications of your work with members of the public/people outside your field?

- Very
- Reasonably
- A bit
- Not at all
- Don't know

6. Have you previously taken part in any science engagement projects? (Tick all that apply)

- Visit to a local school
- Science festival
- University/institute organised events
- Other - tell us what Please enter an 'other' value for this selection.

7. Are there any other comments you would like to add?

Appendix 3: Teacher post-event survey

1. To what extent do you agree with the following outcomes from taking part?

1. To what extent do you agree with the following outcomes from taking part?	Strongly agree	Agree	Disagree	Strongly disagree	Don't know
My students enjoyed the event	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My students are more excited about science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My students are more aware of careers in science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My students are more confident in debating science issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My students have a more positive view of science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My students are more confident in asking questions about science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My students have a more nuanced view of science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more confident in using online tools in lessons	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more confident in teaching the scientific method	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more aware of cutting edge science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more aware of my students' attitudes to science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found the event easy to implement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall I was satisfied with the event	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. What was the single most important outcome for you as a teacher?

3. Would you participate again?

- Yes
 No

4. Would you recommend taking part to a colleague?



- Yes
- No

5. How did you run I'm a Scientist?

- In lessons as part of the scheme of work
- In lessons as enrichment
- Outside lessons as part of a themed day/week
- Outside lessons in a STEM club
- Other - tell us how Please enter an 'other' value for this selection.

6. How many lessons did you spend on I'm a Scientist?

- 1
- 2
- 3
- 4
- 5+

7. From a technical viewpoint, how did you find using the site?

- Difficult throughout
- Quite difficult to start but easy once I was used to it
- Quite simple and straightforward
- Very easy
- I didn't use the site

8. As a teacher, what would you do differently next time (if anything)?

9. How useful did you and your students find the following parts of the site?

9. How useful did you and your students find the following parts of the site?	Very useful	Quite useful	Not that useful	Not at all useful	We didn't use it
ASK - students asking questions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CHAT - live chat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
VOTE - students voting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Live chat booking form	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. How useful did you and your students find the following parts of the site?	Very useful	Quite useful	Not that useful	Not at all useful	We didn't use it
Staffroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
/Teachers (the teachers' area)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teacher FAQ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Which parts of the teacher pack did you use, or plan to use in future teaching?

10. Which parts of the teacher pack did you use, or plan to use in future teaching?	Used in full	Picked bits out	Did not use	Plan to use later
Lesson 1: You're the Judges!	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lesson 2: Meet the Scientists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lesson 3: Live chat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lesson 4: Drugs in Sport Debate Kit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. How did you find the teacher briefing notes?

- Very useful - they told me everything I needed to know
- Quite useful - they covered most points but had some gaps
- Not very useful - I had lots of questions after reading them
- Not at all useful - a waste of paper
- I didn't read the briefing notes
- I didn't receive any briefing notes

12. If you used the CHAT 'live chat' facility, what worked well about it? How do you feel it can be improved?

13. If you didn't book a live chat, can you tell us why?

14. What do you think about the number of emails you received in the run up to and during the event?

- Just right

- Not enough - I would have liked more regular emails
- Too many - the emails were too regular

15. How useful was the content of emails you received?

- Very useful - contained everything I needed
- Quite useful - contained some useful information
- Not particularly useful - didn't contain much useful information
- Not useful - I didn't use any information in them

16. Can you suggest any information you feel was missing from emails about the event?

17. Is there anything else you would like to add, such as things you particularly liked or disliked about the event, or what you would change about the event?

Appendix 4: Scientist post-event survey

1. Overall, did you enjoy taking part in the event?

- Yes, it was fantastic
- Yes, it was OK
- Not really, it was a bit of a chore
- No, it was a waste of time

2. To what extent do you agree with the following outcomes from taking part?

2. To what extent do you agree with the following outcomes from taking part?	Strongly agree	Agree	Disagree	Strongly disagree
I am more confident in communicating my work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a better understanding of how students view science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am re-energised about my work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have developed links with other scientists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more confident in using online tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I want to do more public engagement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more aware of what other scientists do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. To what extent do you agree with the following statements about I'm a Scientist?

3. To what extent do you agree with the following statements about I'm a Scientist?	Strongly agree	Agree	Disagree	Strongly disagree
It didn't take too much of my time to prepare for	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was able to engage and communicate with the students effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It improved my communication skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The students seemed to enjoy the experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall I was satisfied with the experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. How do you think it compared to other forms of science engagement or dialogue you may have been involved with?

5. Would you participate again?

- Yes
- No

6. Would you recommend it to a colleague?

- Yes
- No

7. How useful did you find the following parts of the site for communicating with students??

7. How useful did you find the following parts of the site for communicating with students??	Very useful	Quite useful	Not that useful	Not at all useful
CHAT - live chat with students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ASK - Q+A with students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My scientist profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. How did you find the scientist briefing notes?

- Very useful - they told me everything I needed to know

- Quite useful - they covered most points but had some gaps
- Not very useful - I had lots of questions after reading them
- Not at all useful - a waste of paper
- I didn't read the briefing notes
- I didn't receive any briefing notes

9. From a technical viewpoint, how did you find using the site?

- Difficult throughout
- Quite difficult to start but easy once I was used to it
- Quite simple and straightforward
- Very easy
- I didn't use the site

10. How do you think the CHAT facility could be improved?

11. Approximately how long did you spend per day, on average, participating in the event?

- Up to 1 hour a day
- 1-2 hours a day
- 2-3 hours a day
- 3-4 hours a day
- More than 4 hours a day (please specify) Please enter an 'other' value for this selection.

12. What do you think about the number of emails you received in the run up to and during the event?

- Just right
- Too many - the emails were too regular
- Not enough - I would have liked more regular emails

13. How useful was the content of emails you received?

- Very useful - contained everything I needed
- Quite useful - contained some useful information
- Not particularly useful - didn't contain much useful information
- Not useful - I didn't use any information in them

14. Can you suggest any information you feel was missing from emails about the event?

15. If you used twitter during the event, how useful did you find it for the following?



15. If you used twitter during the event, how useful did you find it for the following?	Very useful	Quite useful	Not very useful	Not at all useful	I didn't use it
Interacting with fellow scientists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keeping up to date with how the event's going overall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sharing questions with scientists in different zones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reporting and hearing about problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Letting colleagues and friends know about the event	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. Is there anything else you would like to add, such as things you particularly liked or disliked about the event, or what you would change about the event?

Appendix 5: Student post-event survey

1. What year are you in at school?

- Third Class
- Fourth Class
- Fifth Class
- Sixth Class
- First Year
- Second Year
- Third Year
- Transition Year
- Fifth Year
- Sixth Year
- Other (tell us which) Please enter an 'other' value for this selection.

2. How does school make you feel about science?

-- Please Select --

-- Please Select --

Excited - I love science!
It makes me interested to learn more
I don't really have an opinion on it
It doesn't really excite me much
Bored - I don't really like science

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

-- Please Select --

-- Please Select --

Yes; bring it on!
I probably will
Hmmm not sure...
I probably won't
No thanks!

4. Do you think jobs involving science are interesting?

-- Please Select --

-- Please Select --

Yes - very!
Yes - fairly
I don't really know
No - not really
No - definitely not

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

-- Please Select --

-- Please Select --

For sure!
I think I probably will
Hmmm ask me in a year...
Not very likely if I'm honest
Definitely not interested!

6. Where did you use the I'm a Scientist website?

- At school
- At home
- Both

7. To what extent do you agree with the following statements about taking part in I'm a Scientist?

7. To what extent do you agree with the following statements about taking part in I'm a Scientist?	Strongly agree	Agree	Disagree	Strongly disagree	Don't know
It was interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoyed taking part in I'm a Scientist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I learnt new things about science I didn't know before	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I now understand what scientists do better	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I now understand how science works better	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I now feel more confident about debating science issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The website was easy to use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm now more aware of careers in science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. What features did you use on the website?

8. What features did you use on the website?	Used frequently	Used once	Never used	Didn't know it existed
Ask	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vote	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FAQ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Which activity was your favourite?

- CHAT - live chat with scientists
- ASK - questions and answers
- VOTE
- Scientists profiles
- Drugs in Sport debate kit



Other (tell us what) Please enter an 'other' value for this selection.

10. How important were the following when you were deciding which scientist to vote for?

10. How important were the following when you were deciding which scientist to vote for?	Very important	Quite important	Not very important	Not important at all	I didn't vote
Their research was interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Their research was important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They answered my questions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They talked to me in the live chat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They answered questions quickly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They gave long detailed answers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Their profile was interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They had a nice photo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What they said they would spend the money on	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Would you recommend taking part to your friends?

- Yes
- No

12. Is there anything else you wanted to say? What did you particularly like or dislike about the event, or what you would change about the event?

13. To qualify for the free draw to win €30 of iTunes vouchers please let us know your email address and which school you're at. Please check your email address carefully as an incorrect address will rule you out of the draw.

School name

Email Address

