



Christmas Lectures 2014

The CHRISTMAS LECTURES Zone was run between mid-December 2014 and the end of January 2015. This was the second year that a CHRISTMAS LECTURES Zone had been created. It was designed to run alongside the Royal Institution's annual lecture series, this year titled 'Sparks Will Fly!' and hosted by Danielle George. The aim of this zone was to provide a way for interested viewers to find answers to questions prompted by the lectures.

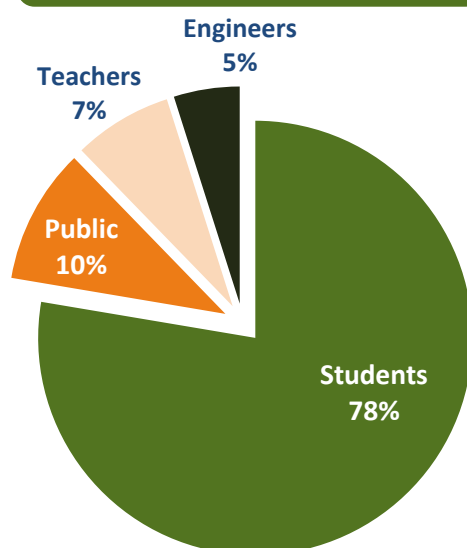
Three live CHAT sessions were scheduled to coincide with the lecture broadcasts over the festive period and these were accessible **to both students and the general public**. During January, live CHAT sessions could be booked by teachers where they would be able to bring their students online during lessons. Unlike the normal I'm an Engineer event there was no VOTE section and no engineer or student winners.

263 students from 10 different schools were active in the CHAT and ASK sections, whilst **37 members of the public** logged in through social media.

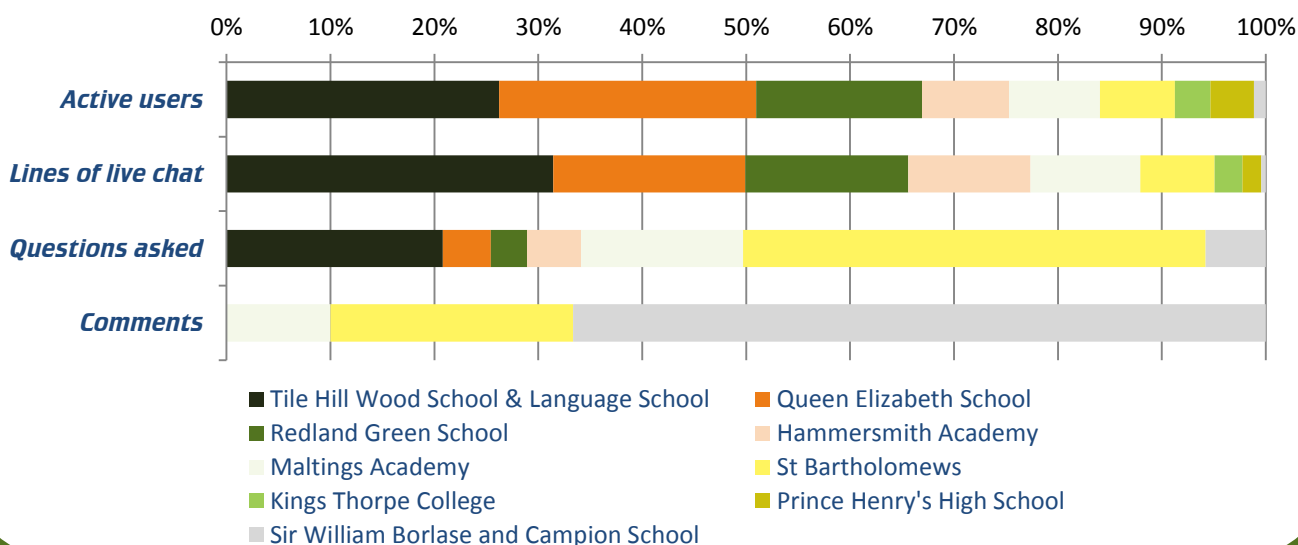
Students asked **58 of the 98 approved questions** to the public's 39. This is a lower number of questions than might have been expected from students, suggesting that the CHRISTMAS LECTURES Zone was primarily used by students for the live CHAT as opposed to ASK.

18 engineers were online to answer questions. Three engineers, Andy, Steve, and Tim, contributed over **80% of lines of chat** and **60% of the answers** to questions. They were able to answer questions during every week of the event and often left detailed answers.

Zone Users

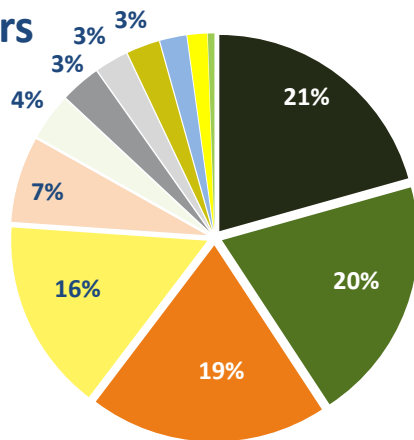


Schools data at a glance

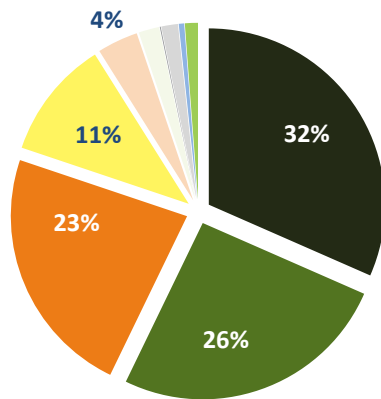


Engineer activity

Answers



Lines of live chat



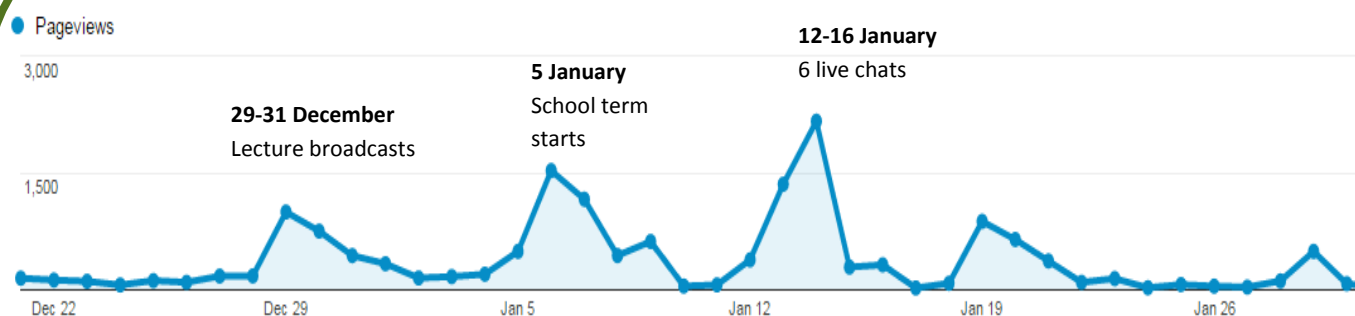
Engineer	Key	Profile Views
Andy Hearn		475
Tim Stephens		261
Steve Cox		397
Sarah Wiseman		155
Paul Murcutt		43
Mousumi Roy		72
David Cuadra-Docalle		31
Peter Green		391
Benjamin Males		76
Fiona Dickinson		213
Ben Pirt		217
Joe Myerscough		27

Although **fewer school students** took part this year (263 compared to 312), across most measures, **engagement was up from last year**. In total 20 live chats took place in January with school students. This is down from the 2013 CHRISTMAS LECTURES (30), however the average lines in a live chat was higher (262 to 231). In the ASK section, **more questions were submitted, approved and answered**.

Page views relating to the event were also increased from the previous year. The CHRISTMAS LECTURES zone is open for seven weeks, which is much longer than a standard two week zone. The most activity was seen in the **second week of the new school term**, peaking around the 16th January. Following this, the timeline of page views below indicates that interest in the event dropped to around pre-event levels after Monday 19th January.

Views of the engineers' profile pages were much higher than the previous year, with the most active engineers generally receiving the most. Despite not taking part in either the CHAT or ASK zone Danielle George's profile was also one of the most popular (453 views).

Number of page views during the event, and notable dates



*Key figures from the CHRISTMAS LECTURES zone,
compared against those of the previous year.*

Number of page views during the event
compared to same period in previous year.

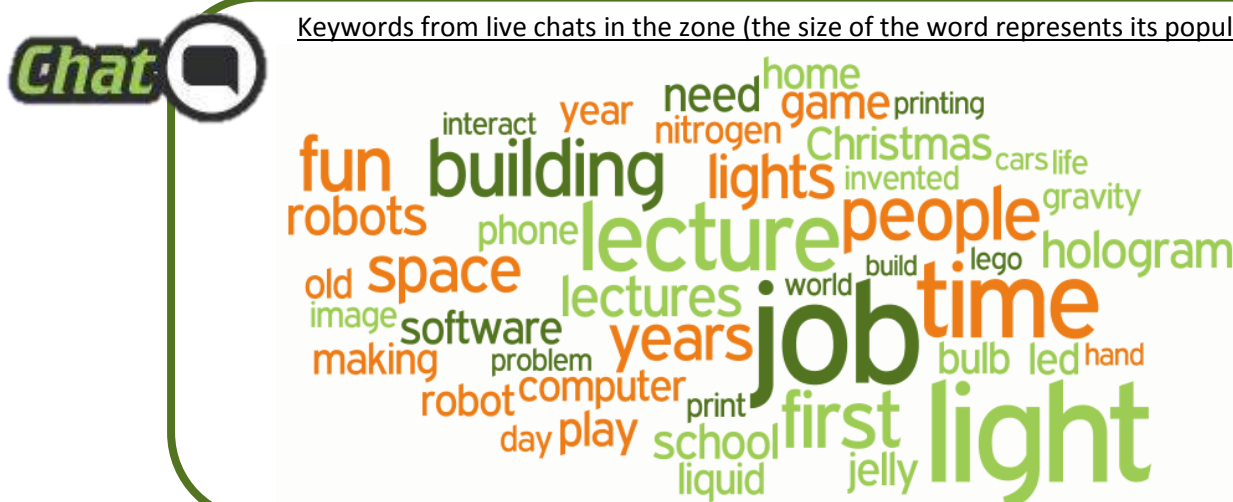
CHRISTMAS LECTURES PAGE VIEWS	2014-15	2013-14
Total zone	35,577	26,043
ASK page	1,067	878
CHAT page	3,993	3,110
PROFILE pages	3,640	1,449

	2014/15 ZONE	2013/14 ZONE
Length (Weeks)	7	8
Engineers	18	25
Registered students	285	445
% active students (used ASK,CHAT, or commented after logging in)	92%	70%
Active students	263	312
Questions asked	179	99
Questions approved	98	66
Answers given	216	173
Comments	61	41
Live chats	20	30
Lines of chat per session	292	231
Schools	10	22

Popular topics

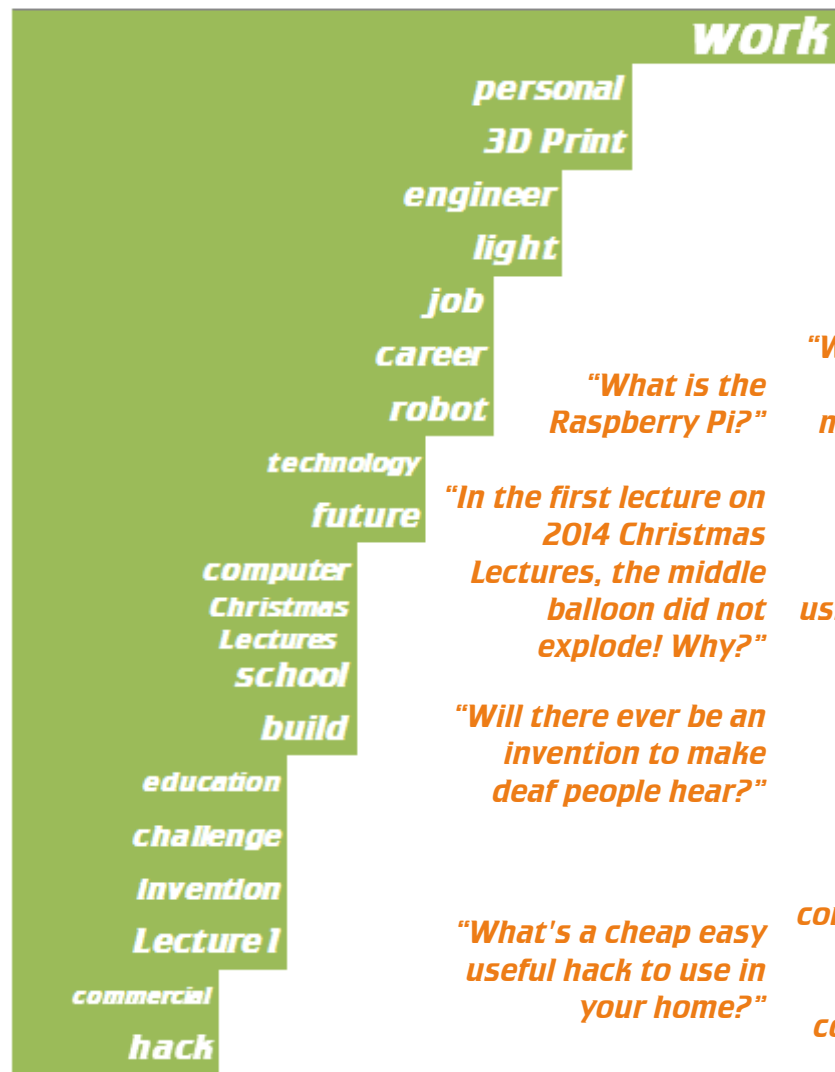
There were a very wide variety of question subjects, mirroring the broad scope of the lectures themselves. There were many references to the content of the lectures, especially 3D printing, lights and LEDs, and robots. The students were also keen on asking about engineering as a career, which is reflected in 'work' being the most used keyword.

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



Keywords of questions asked in the zone, length of bar represents frequency of use.

0 1 2 3 4 5 6 7 8 9 10 11 12



Example questions

(click for links)

"In the Christmas Lectures you made a robot orchestra, do you know what the future of robotics is?"

"How does a sensor work?"

"Will there ever be an invention to make deaf people hear?"

"What is hacking?"

"What's the hardest thing you've ever been asked to design/construct?"

"Can you create taste or smell using a 3D printer?"

"In the first lecture on 2014 Christmas Lectures, the middle balloon did not explode! Why?"

"Will there ever be an invention to make deaf people hear?"

"How are robots made?"

"What is your favourite thing you have made with a 3d printer?"

"What is the commercial use for the technology within a motion controlled robotic hand?"

"What's a cheap easy useful hack to use in your home?"

"When you were racing the Jaguars, how thick was the ice?"

Examples of good engagement

The students often asked questions that speculated on future uses of technology either shown or discussed in the lectures. The most active engineers, Steve, Andy and Tim, answered fully, and brought their own expertise to the questions, such as 3D printing in space and computing. Joe, the lectures producer, also responded to behind the scenes questions. In addition, members of the public took the opportunity to ask for technical advice. This was offered in an accessible way and included helpful links:

"Question: I have an old computer tower and I was wondering if I could remove it's old OS and replace it with a different one (for instance the Raspberry Pi OS). Is this possible and how would I do it?" – DrProfessorKit, public

The OS for a Raspberry Pi won't work directly because it's compiled specifically for that computer. BUT, the Raspberry Pi OS is based on Debian Linux, which is a free operating system that's available to download from <http://www.debian.org>. You basically download the image that they make available, burn it to a DVD, reboot your computer, and tell it to use the DVD drive to load from. After a bit of a wait, there will be instructions that tell you what to do (there are also decent instructions on the Debian website). Have fun!" – Tim Stephens, engineer