



ENGINEERING FOCUS

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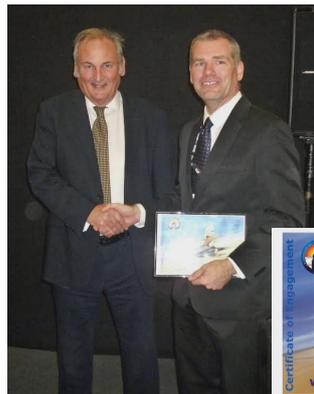
LOOKING TO THE FUTURE

Teentech, Technopop, teacher and student training sessions, a busy start to the new academic year.

The range of STEM based projects we run at WGSB is quite varied and hopefully reading the Engineering Focus has given you an insight into the activities the students have been involved with over the years. If you would like to know what we are up to more quickly then please follow @Eng_Focus where I not only tweet about any projects we are running in school, but retweet information from STEM organisations across the world.

Building on last year's success we have already held the training session for this year's WGSB STEM ambassadors with an amazing 109 people from across the years applying to take part. The training was run by Bloodhound SSC ambassadors giving us an update on this amazing project and running k'nex car challenges for the students.

Many of our new ambassadors were inspired by the Bloodhound SSC week at the end of last year. Mr Williamson received our Certificate of Engagement for the July event from Richard Noble OBE, Bloodhound SSC project director.



Mr Williamson receives a certificate of engagement from Richard Noble OBE



Our extra-curricular STEM work is evolving and we will be running more in school projects with industrial ambassadors from STEMNET assisting us. STEMNET is a national organisation that supports all schools by running training sessions for teachers, supplying projects and resources to schools and by organising STEM Ambassadors for a huge range of different projects run by schools across the country.



Technopop gave students the opportunity to look to the stars

On a personal note I would like to thank them for all of the support they have offered me at WGSB, as well as thank them for nominating me for one of the National STEMNET awards that will be presented at the House of Lords in November.





WGSB STEM AMBASSADORS—GETTING READY



Student ambassadors learn about the Bloodhound SSC and recent developments in the 1000mph project



109 applicants – Fantastic!

After an impressive start in 2013-14 with over 50 ambassadors I wanted to develop the program further. What a great start.

Being a STEM ambassador for the school has several benefits, from a selfish point of view I have a group of

helpful, reliable students who I can call on to support me in any of the activities I undertake within the school or the local community.

From the point of view of the ambassadors it is the opportunity to develop a range of Work Related Skills which are very popular with universities and employers; teamwork, communication, problem solving, independence, and leadership skills.

As well as developing these skills students need formal recognition of their work which is achieved by applying for the national STEM Leaders Award. This is the evidence that future employers and universities will be looking for.

It is great to look to the future, but what benefit is it now? If you're interested in STEM and hands on activities it is quite simply fun!

To complete the national Leader's Award students must interview and produce a report about the work of a STEM ambassador. This was made possible by the Bloodhound SSC



Learning about the Science Fair they will be running at local primary schools

ambassadors who attended our training day.

This gave our students the opportunity to find out about the activities we run during the science fair and to try to solve the problem of how to build a successful k'nex car to launch down the hall with compressed air. Our two most popular activities requested by local primary schools.

We start visiting primary schools with projects in November and I am looking forward to going out to our local schools with members of my new team to make sure that the students we work with learn just how much fun STEM can be.



“The first rule of intelligent tinkering is to save all the parts!”

Paul Erlich

German Immunologist



Teams develop their K'nex car designs



TECHNOPOP



New technologies, careers advice, entrepreneurship and hands on activities.

Technopop is a big event held at The International Quarter (TIQ) in Stratford giving thousands of 6-19 year old students the chance to learn more about STEM in the future.

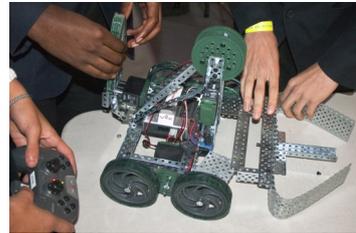
Year 11 are currently making choices that will impact hugely on their futures – where to go after GCSE. The vast majority will go on to A-Level courses, but which ones? We wanted to give our students the opportunity to think about not only ICT and STEM

careers but also business and entrepreneur routes. Our main aim being to provide them with information to support and help them making these decisions for their futures. The careers advisors at Technopop were answering questions on apprenticeships, gap years, applying for Uni and course choices for A-level. An absolute must for all of our year 11 students.

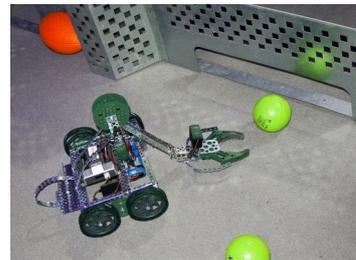
The range of activities at Technopop was quite diverse with students fascinated by building electronic circuits using conductive dough, programming small hand held games consoles or experiencing a 3D ‘mouse’ which actually gave feedback to the user when the cursor touched a surface on the 3D images. One use of the 3D controller is for surgeons to simulate keyhole surgery procedures where they are navigating their way around parts of your body purely using screens and monitors.

The VEX robot challenge was very popular with teams modifying a robotic base unit to score as many goals as possible in the given time.

The main talk we attended was given by George Burges founder of Gojimo, an educational revision app. He was an excellent speaker who encouraged students to use their imaginations to develop



Modifying and competing with a VEX robot



new products and ideas that they could promote and then sell around the world. I liked one of his closing points about the fact that if you want to start a business do it when you’re young – while you have the safety and security of living at home with Mum and Dad.

Our visit to Technopop gave a great insight into future careers and access to advice about the different routes our students have before them.

“Education is not the filling of a pail, but the lighting of a fire”

William Butler Yeats



TEENTECH 2014



Working with the Royal Navy on the most efficient turbine design

The power of the mind, human computer interaction, 3D mapping and 3D printing. New technologies abound at the annual teentech event which enthralled 10 lucky year 8 students on a yearly basis.

Maggie Philbin's enthusiasm starts the day with a techno survey of what the students think about Scientists, Technologists, Engineers and Mathematicians. The opening activity asking students to draw a scientist demonstrates that most people associate scientist with being old, mad and having serious white hair issues. This is one of the main misconceptions the event wants to address with hundreds of STEM ambassadors on hand during the day and hardly a white hair among them.

The interactive activities always engage the students giving them a better understanding of how new technologies are making our world better whether it is through developments in medical science,

improved forensic techniques, or more efficient products helping the environment.

Some of our students experienced the new Samsung eLearning classrooms with their tablets interacting with the Smart board in the room, this leads to all students engaging in Questions and Answer sessions and the teacher having a record of exactly who got which questions right or wrong.



Our students excelled at the App design challenge being highly commended for their idea of having an app to control a vibrating pillow that would wake sleeping commuters in time to get off at the correct stop.

It was, as always, a fascinating day that the students hugely enjoyed, thank you to all of the ambassadors and the KEBP team for making this great opportunity possible.



Fascinating Forensics—analysing clues from the burglary

Hand generated power for Scalextric and getting wired for sound—Hands on activities at TeenTech



For further information regarding any topic in the Engineering Focus please contact esmith@wgsb.org.uk
Or visit our website at <http://wgsbengineeringfocus.weebly.com/>



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