



SCIENCEOXFORD



SECONDARY SCHOOLS

# NEWS

SUMMER 2016

HOW BUSINESSES ARE ENGAGING WITH SCHOOLS

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FOR SECONDARY SCHOOLS IN OXFORDSHIRE, BUCKINGHAMSHIRE AND WEST BERKSHIRE

# WHAT HAVE OUR LOCAL BUSINESSES BEEN UP TO?

An insight into how local companies are engaging with young people.

## BP AT PANGBOURNE

BP Pangbourne has a long term project working with Langtree School in which they aim to visit the school at least once a month. Year 9 students work with BP ambassadors on the Go4Set challenge, a national engineering competition. BP staff also run Ex'straw'dinary Engineering, Creative Chromatography and the Oil Products Challenge workshops at the school and provide free resources.



Over the summer holiday work experience placements are provided for 4-5 students in years 10-12. To gain a placement students are required to go through a rigorous interview process during which BP ambassadors help the students with their CV and interview skills.

BP, together with Invesco Perpetual, is supporting the schools "Langtree Challenge" which encourages the students to develop leadership, independence, team-working, resilience, communication, confidence, organisation and initiative.

OXFORDSHIRE



BP Educational Service

## JOHNSON AND JOHNSON

Johnson and Johnson have been working with Cressex Community School for the past six years. The objective of the collaboration is to raise pupils' awareness of the job opportunities their maths and science skills can bring to them in their future careers.

Initially 60 students from year 8 and their teachers visit the Johnson & Johnson facility at High Wycombe, where they are introduced to three disease areas (Oncology, Diabetes and TB/Ebola). These classes are followed by workshops on marketing, sales and forecasting.

Over the course of the project the students take part in two competitions, which are run along the lines of "The Apprentice Meets Dragons' Den". The students use their presentation skills and the ability to persuade and answer questions on what they have learned about one of the disease areas. They also present their own marketing campaign on a fictional product in a chosen disease area.

OUR STUDENTS HAVE DEVELOPED THEIR KNOWLEDGE IN THE AREAS COVERED BY THIS COLLABORATION AND FURTHERMORE, THEY HAVE THOROUGHLY ENJOYED ALL THE ASPECTS OF THIS PROJECT WHILST GAINING A FANTASTIC INSIGHT INTO THE PHARMACEUTICAL INDUSTRY.



Johnson & Johnson



## CDK GLOBAL

CDK Global is the largest global software provider of integrated information technology and digital marketing solutions to automotive dealerships and manufacturers in more than 100 countries worldwide. Staff at CDK have been innovating for over 40 years and are passionate about promoting careers in technology. There is a recognised skills shortage in the industry, so it is important to support talented young people who will develop and grow into the leaders of tomorrow.

CDK has been working with John O'Gaunt School to develop a series of lunchtime careers sessions for their AGT students. Themes have included routes into work, apprenticeship and graduate entry, business support roles, technology business roles (product + project management), technical roles (R&D + support) and building & supporting.

CDK STEM Ambassadors have a range of backgrounds including engineering, science, technology and business. They are also able to support the school with coding and programming as well as contributing to careers events.

BUCKINGHAMSHIRE

BERKSHIRE

**MEETING WOMEN WHO WORK FOR GE HAS SHOWN ME THAT THERE IS A PLACE FOR FEMALES IN STEM**

Work Experience student

## GE HEALTHCARE

GE Healthcare is a global healthcare company specialising in medical equipment and pharmaceuticals. At their Amersham site staff are particularly passionate about inspiring the next generation to take up science, engineering, technology and maths subjects. In partnership with charities such as Young Enterprise and STEMNET, volunteers visit local schools to deliver activities which foster creativity, imagination and enterprise.

Every year GE staff host work experience weeks at the end of June and the beginning of July for students in local schools focussing on STEM areas, business planning and career development. Activities include DNA electrophoresis, computer programming, risk analysis, assembling radioactive products and working with robots as well as touring and experimenting in manufacturing and engineering decontaminated laboratories.

The work experience positively impacts on the students' view of STEM. Students say that it improved their confidence and that they didn't realise the range of roles available.

## LAING O'ROURKE

Laing O'Rourke is involved in several building projects in the city of Oxford including construction of the new Westgate Oxford retail and leisure development. Seven members of the Westgate Oxford project have trained as STEM Ambassadors and have been promoting career opportunities in engineering and related STEM subjects by attending three local school careers fairs, delivering assembly talks and attending a speed networking event. Staff have been working with UTC Oxfordshire to deliver two Digital Engineering themed sessions and will be linking next year with Matthew Arnold School as part of their Young Engineering Programme. In July, the company will host 20 local students as part of Science Oxford's STEM World of Work programme and during the summer holiday, one of Laing O'Rourke's Senior Engineers will host a STEM Apprentice Placement.



# WOMEN IN STEM – AMBASSADOR CAREER PROFILES

## ALICE BUTT

**Job title:** Geoscientist



I have been employed as a geoscientist working at Halliburton in Didcot for 3 ½ years. In a typical day I will be working on a digital 3D model of the subsurface built with complex geoscience software. I could be collecting rock type and depth data from reports published in academic and industry journals

to improve parts of the model; or I could be using deep earth temperature information and physical properties of rocks to determine what the conditions are like at depth and whether they are optimal for creating and storing hydrocarbon (oil and gas) reserves. This model helps the well planning team know where they should drill for the hydrocarbons or at least give an idea of the risk of spending millions of pounds to drill at one location!

I enjoyed geography, biology and maths at school and was able to study geology as an A level. This led me to choose geology for my degree subject, which I studied at Bristol University for 4 years. The biggest challenge I had was getting my foot onto the employment ladder as most companies look for experience in the workplace even for people who have just graduated from a university degree. So, if you know which industry you want to go into, try to get relevant work experience early on and you will thank yourself later!

## HANNAH BAUGH

**Job title:** Infrastructure Systems Architect at Fujitsu and RAF Reserves, ICT Technician.



I joined on the Graduate Scheme on the Technical Path four years ago. I tried out a variety of technical roles in test and integration before moving to infrastructure design. One of the main things I love about my job is that there aren't two days which are the same; some days I find myself writing technical design documents describing the ways in which we are going to build an IT Infrastructure for a customer, other days I may be looking at potential hardware to offer a customer in response to a requirement they have – which includes getting quotes, speaking with suppliers and answering technical queries they have. Additionally, I may find myself on customer sites supporting the installation of computer hardware and answering any design queries they have.

At school, I enjoyed IT, English, History and the Sciences. However, I knew from an early age (around 11) that I definitely wanted to do something computer related as a career and I'd advise anyone to just go for it. The biggest challenge for me is belief in my own abilities; as the only female within my immediate business area in the technical space, I felt for a long time that I had to work that extra bit more to prove that I was worthy of that spot; I have now realised that my colleagues and seniors value my input just as much as anyone else's which has helped me realise that I'm working as hard as I am because I'm passionate about what I do.

## LETICIA KENT

**Job title:** Diagnostic Radiographer



I've been qualified just under two years now as a Diagnostic Radiographer, after completing a three year degree course. I'm in the early stages of my career but it's already proving to be a fast paced and engaging job. I wouldn't say a typical day exists in my job role; I could be working a 9 to 5

shift in the outpatient service of the x-ray department one day, providing x-ray imaging in surgery for a child with a fractured elbow in the evening of another, or being part of a team that stops a heart attack in its tracks at three in the morning. Although you think you might know what the working day will bring, there will always be something to surprise you.

There are so many opportunities in radiography, whether it be in specialising or just taking your individual interests in the field further with teaching or research. It takes some hard graft during university to succeed in radiography, but it's a job that is always in demand, is ever-changing and can take you across the world if you wish.

# CREATIVE COMPUTING CLUB

Science Oxford is keen to support the new national curriculum for computing, not just through in-school outreach sessions and teacher CPD, but by providing entertaining and inspiring hands-on activities for young people (aged 9+) away from the classroom environment. The freedom to be creative and innovative is vital to learning and discovery across all areas of life and we've embraced that ethos with our new **monthly Saturday Creative Computing Club**.

Selling out each month in February, March and April Science Oxford's new club has offered a unique blend of fun, electronics and coding. In sessions for 9-12 year olds and 12-15 year olds our budding young coders faced different challenges from traffic light sequences and controlling parking barriers, to a landing sensor for a mission to mars and making a secret alarm to protect their secret spy base.

Pupils get to see how coding is used in the world around them and get the chance to learn to basic electronics in a safe environment. Parents may remember having a BBC Micro when they were younger – the FUZE used in our computing club offers a similar experience but using 21st century technology!

WITH SUCH AN EASY TO PICK UP LANGUAGE, OUR STUDENTS WERE CONTROLLING ROBOT ARMS AND INTERACTING WITH ANALOGUE SENSORS IN LESS THAN AN HOUR

Parent



# THE BIG BANG @ RAL

In January, and again in June, Science Oxford welcomed year 7 and 8 pupils from local schools to a fun packed day of workshops and shows hosted by Rutherford Appleton Laboratory (RAL). The Big Bang Near Me events aim to inspire and enthuse pupils in science, technology, engineering and maths by providing engaging and interactive activities. Pupils attending the events created their own comets, made ice cream with liquid nitrogen, visited research labs and acted as judges in the STEM's Got Talent show where STEM Ambassadors compete in a battle of science and technology demonstrations. Pupils also had the opportunity to meet scientists and engineers and hear about the amazing work taking place at Rutherford Appleton Laboratory.

THE WAVE WORKSHOP WAS MOST INTERESTING AND LINKED WELL TO HOW THE EQUIPMENT IS USED AT RAL

Teacher





# CREST Awards

A British Science Association programme



## CREST AWARDS

Science Oxford is the local co-ordinator for CREST, the British Science Association's flagship programme for young people; providing enrichment activities to inspire and engage 5-to-19-year olds. It is the only nationally recognised accreditation scheme for project work in STEM subjects.

CREST gives pupils the chance to participate in hands-on science through investigations and enquiry-based learning. It can be run in schools, clubs, youth groups, other organisations or at home.

Pupils throughout our region are benefitting from participating in the CREST programme:

- At Chalfont Community College all year 9 pupils undertook a STEM project on a topic of their choice which they completed during lesson time. Triple science students worked towards a silver level award while double science pupils gained a bronze award.
- Eight local schools took part in the 2016 High Wycombe Rotary Technology Challenge which entitles every pupil attending to receive a CREST bronze award.
- 120 pupils from Cherwell School entered the school's annual Science Fair with many of the projects being entered for bronze and silver CREST awards.
- CREST gold awards were presented to year 12 students completing projects as part of the Engineering Education Scheme run by EDT.
- Students taking part in Science Oxford's STEM World of Work research placements over the summer holidays will be working towards a CREST gold award as part of their placement.

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