UNIVERSITY OF BIRMINGHAM

THE QUEEN'S ANNIVERSARY PRIZES FOR HIGHER AND FURTHER EDUCATION 2011

EngD Outreach Report

October 2014

I'm an Engineer Get me out of here

EPSRC
Engineering and Physical Sciences Research Council

Introduction

This document captures the activities of the EngD Students during the last Academic Year (2013/14).

The intention of this record is not only just to disseminate information but to act as inspiration to the next generation of Research Engineers to encourage them to give something back to the public.

Much of this year's activity has built on the last year's with continued visits to schools and helping at Open Days.

It is great to see the continued Outreach work of the Johnson Matthey based students with the torch being passed on to the next generation. A big congratulations to Zoe George for being a winner of "I'm an Engineer get me out of here", amongst numerous other activities.

And finally I would like to highlight the work of Peter Keeley for his work at the Museum of Computing at Swindon (yes, it really does exist).

RWG October 2014

The EngDs have taken part in a variety of Events across the UK.

The following reports give the details of these Events and also include plans for Outreach Activities over the next year:

Amir Asghari
Peter Clark
Laudina Duffus
Zoe George
Alistair Green
Erik Hughes
Charlotte Iosson
Peter Keeley
Anthony Kent
Olga Mihailova
Richard Moakes
Rikki Norris
Martin Riley
Dmytro Stratiychuk-Dear
Ioanna Zaffeiri

Amir Asghari

Undergraduate open-days

I have been involved in 6 undergraduate open days, in which another post-graduate and I help out with the days' proceedings; manage the attendance records of the prospective students conduct tours around the department, campus and the city as well as conducting espionage games designed to assess students creative thinking and team skills. Within the tours, the research currently being undertaken within the department (including detailed explanation of my own project) is explained and promote. We also have the responsibility of trying to help with any queries the prospective students or their families may have.

Undergraduate Student Supervision

I contributed in the supervision of two MEng Chemical Engineering final year students during the winter term of 2014. Students worked either in a team or individually on a project related to my work. My role and responsibilities consisted of working initially with the students to introduce them to the topic, which entailed detailed training on specific techniques and equipment for their experimental work. I was committed to supervising their progress in the lab, organising frequent project meetings, advising and coping with problems and difficulties that arose throughout their projects. Through this experience I contributed to student learning and developed my own approach/'best practice' to supervising, according to the student's personality and capabilities.

Future Plans

- Keep helping with undergraduate open-days
- Presenting my research at new events
- Masters student supervision for 2015
- Visit school events with STEMNET

Peter Clark

Middlesbrough College Open Day – 20th November 2013

I organised for engineers from Johnson Matthey to deliver a presentation at the open day at Middlesbrough college to encourage prospective university students to apply for a course in chemical engineering. 2 engineers attended and were well received and we were asked to return for the following year.

MEng Research Presentation Industrial Adjudicator – 15th January 2014

Through connections with Teesside Uni on the IChemE committee for the Teesside members' branch, I was asked alongside Sam Wilkinson (ex-EngD student and current JM employee) to be industrial adjudicators for the research project presentations from the 4th year MEng students at Teesside University. Covering a morning, we were presented with 5 presentations, each lasting 40 minutes and we were to take notes and compare so as to award an IChemE prize to the best presentation. We provided feedback to the students in a session 2 weeks later and passed our notes to the lecturers so as to assist them in the marking of the presentations towards the students' degrees.

St Michaels School Engineering Demonstration and Presentation – 3rd February 2014

I organised for engineers from Johnson Matthey to attend an engineering presentation at St. Michaels school in Billingham as part of the 'Future Scientist Programme' run by a business division within Johnson Matthey. Two engineers entered the school to give a Year 8 and Year 9 class practical demonstrations of extruders and fuel cells and hold a Q&A on chemical engineering and university in general.

Northfield School Engineering Demonstration and Presentation – 5th February 2014

Along with a JM graduate scheme engineer, I attended a careers day at a school in Billingham. There we gave a presentation detailing careers in chemical engineering and held a Q&A session with students from Year 8 and Year 9 classes. We also gave the school students play-doh extruders for them to have a go at extruding their own shapes and then gave a demonstration of a fuel cell powered car with borrowed equipment from Johnson Matthey.

Meet the Engineers Freshers Event with Teesside Uni – 27th March 2014

I attended an event organised by Teesside University Chemical Engineering club, this was an event for students to meet local industrial engineers from varying companies and discuss future careers, advice for their course and any other topics that came to mind.

STEM Careers Day at Middlesbrough College - 2nd April 2014

I organised for engineers from local companies to attend this careers day with a Whynotchemeng/IChemE stand encouraging sixth form and GCSE students to pursue careers in chemical engineering. Over 600 students attended this event and feedback stated the IChemE stand was popular. A presentation about chemical engineering was also given by one of the engineers to 100 students as part of this careers day.

Schools Liaison Officer – May 2012 – June 2014

I recently resigned from the post of schools liaison officer on the Teesside members branch of the IChemE committee. Having been in the post for just over two years it seemed appropriate for me to stand down having committed time to the role that can now be put towards writing my thesis. During my time in the role, we have formed connections with Tyneside IChemE branch and the University of Newcastle through their outreach officer Peter Hoare, the idea being to share ideas concerning demonstrations and practical methods to involve children in engineering.

In my position as liaison I have been in contact with the IChemE's 'whynotchemeng' and helped advertise their requirements to outreach contacts I have within companies in the region. I have also been in regular contact with STEMnet to advertise their work and requirements within Johnson Matthey and amongst my contacts.

I am still on the IChemE committee but I have taken a reduced role of quizmaster, that is to organise the annual IChemE quiz; a highly attended event. I will also continue to support the current schools liaison officer and attend committee meetings.

Future Ideas

Although I have decided to step down from organising IChemE activities for schools, I am enthusiastic about helping out so I will continue to enter schools and present engineering to their students on behalf of both the IChemE and Johnson Matthey. I am in touch with STEM and continue to distribute both their and the IChemE events to my colleagues in JM.

I am also currently discussing writing a follow up article to 'Why Not EngD?' that was published in March 2012 in TCE and written by Sam Wilkinson and I. The follow up article will be written by 4 generations of EngD students (Tom Wood, Peter Clark, Sam Wilkinson (graduated) and Michele Marigo (graduated)) and will focus on careers after the EngD and what it does for a graduate and on the future for the most recent generations of EngD students.

Laudina Duffus

Outreach training course

I attended a hands-on day long training course and workshop in public engagement and delivering outreach activities to wider, non-scientific audiences. The course involved practice and training for public speaking, health and safety involved in running outreach activities as well as the organisation of public engagement activities.

Future plans

I have made enquiries about giving a presentation to young people at a Saturday school run and based in Perry Barr, Birmingham. Presentation aims to talk to children and teenagers of school age about routes to studying engineering in higher education and beyond. I am currently awaiting confirmation and a schedule from the organisers of the group.

Zoe George

June and July 2014

Name of Event	Chemical Engineering Taster day
Description of Event	Giving an interactive session to A level students interested in pursuing a career in chemical engineering
Date	15th June
Responsibilities	Preparation of a one hour session based on food engineering with a focus on the study of tribology.
Session	A level students were given a chance to learn about the study of Tribology with a tour and lab demonstration.
Location	Chemical Engineering, University of Birmingham
Audience	20 students
Purpose and benefits	Engaging students to learn more about the role of food engineers in chemical engineering. Allowing the students to have an idea of the experiments and equipment that are used in the Chemical engineering department.

Name of Event	Big Bang fair Birmingham- National Science and Engineering fair
Dates	14th and 15th March 2014
Role	General volunteer assisting and helping out with engineering stands
Purpose of event	Raising awareness for science and engineering
Location	NEC, Birmingham
Audience	60,000 people over 4 days

Name of Event	Career talk
Date	4th July 2014
Responsibilities	Career presenter
Location	Great Bar school, Birmingham
Audience	60-70 students
Purpose and benefits	Giving careers advice to year 11 students (15-16 years old) through a presentation. Benefits of the event were to give an insight into the different career paths students could potentially go into

Name of Event	Workshop activity on Emulsions
Date	9th July 2014
Responsibilities	Preparation of a 30 min workshop based on emulsion technology for 6 A level groups which included an interactive activity
Workshop	Titled " Emulsion Technology" the workshop focused on the application of emulsions in everyday products with a focus on food applications. An interactive activity with emulsions was carried out during the session and a short career talk was also given
Location	Plantsbrook School, Birmingham
Audience	Total: 56 students
Purpose and benefits	• Engaging students in an activity to learn about the applications of emulsions and the benefits in the chemical engineering industry • Providing an insight to chemical engineering careers

Name of Event	I'm an Engineer get me out of here
Description of event	• Online interactive competition engaging students to learn about the role of engineers in different industries. • Students ask questions to engineers and participate in live chats to vote for their favourite engineer • Prize: £500 on public engagement of research/work
Dates	16th June- 27th June 2014
Responsibilities	Speaking to school students about how engineering plays a role in the food industry. **I won the competition and will be using the money towards developing kits for schools to deliver interactive workshops and lessons.**
Purpose of event	Engaging students in an interactive online environment to find about the role of an engineer

Benefits	• Trying to understand how the public really think about engineering and engineers. • Improving communication to students about research and work • Opportunity to speak to students about careers in engineering and answer general engineering questions
Audience	273 students registered for the food zone

September 2014

Name of Event	Chemical Engineering open day Lab talks and tours
Date	20th -21st June and 13th September 2014
Responsibilities	Giving talks in the microstructure labs for open days and tours around department
Session	• Giving talks about research on formulation engineering with a focus on food products in industry • Running tours for the department and allowing the public to see the research carried out at the University
Location	Chemical Engineering, University of Birmingham
Audience	Approximately 200 people per day
Purpose and benefits	Allowing students and general public to have an insight into the research and department of chemical engineering.

Name of Event	British Science Festival- Career speed dating
Description	Career speed dating for students to find out about careers in science/engineering in a 5 minute session. Students age range: 14-18
Date	9th September
Session	5 minutes each session: A short description about my career path and allowing students to ask questions about engineering and my role as a chemical engineer
Location	Great hall, University of Birmingham
Audience	Approximately 200 students for the whole day
Purpose and benefits	interacting with students to provide an insight into the career paths of a chemical engineer/ scientist

Name of Event	Girls in STEM day
Description	Interactive Workshop for girls to learn about chemical engineering and the role of chemical engineers.
Dates	17th September
Responsibilities	Helping to run the interactive workshop and answer any of the girls questions. I spoke to the girls about my role in chemical engineering and spoke about potential career options
Session	Interactive workshop on electrolysis focusing on the application in hydrogen fuel cells and presentation on the role of a chemical engineer
Location	Nuffield centre, University of Birmingham
Audience	2 one hour workshops: Approximately 25 students per workshop
Purpose and benefits	Allowing girls to see the various applications of chemical engineering in industry and allowing them to connect with female engineers

Future plans:

1. **STEM centre project**: Project to work with 12 schools and educational consultant to deliver workshops for schools with no visiting STEM ambassadors. This will involve giving emulsion workshops with interactive activities and promoting chemical engineering careers. The prize money I have won from the competition will go to making kits for the school for teachers to replicate the lesson and to deliver more interactive sessions

   Dates: This project will run from October- March
2. **A2B scheme**: Mentoring A level students to write a written assignment which will help them to secure a firm offer for their undergraduate degree in Chemical Engineering.
3. **Girls in STEM days**: Planning interactive workshops based on cosmetic and food engineering at the University of Birmingham

Alistair Green

Name: Ali Green

Event title: British Science Festival/ Careers speed dating

Date: 11/09/2014

Venue: Bramall Music Building (R12), University of Birmingham, Edgbaston

From the 6th – 11th September, the British Science Festival ran various displays, exercises and events for children and young adults up until they leave college or sixth form. On the 11th September I was involved with a Careers Speed Dating workshop aimed at giving years 11 – 13 an idea as to what careers are available to them within the fields of Science, Technology, Engineering and Maths.

The even ran with 20-40 students split into groups of 5-10 and each given 5 minutes to ask whatever questions they liked about the careers of the person whose career they were 'dating'. This meant that to allow for as many questions as possible we had to give a very short (<1minute) introduction to our careers, while at the same time make it interesting enough to the students that they were engaged enough to ask questions.

The concept generally went very well, there were some exceptions, and occasionally the questions asked consisted only of those listed on the prompt sheets, but these often lead on to more specific and interesting questions with many of the groups still asking quick questions as they moved on to their next activity.

Generally I think the College/Sixth form students where the most engaged and therefore got the most out of the activity, as they had already started considering the possibilities of various career options, however I feel that the even may also have encouraged many of the year 11 students to start considering what type of career they are interested in and how they would like to go about achieving that career path.

Erik Hughes

My name is Erik and I'm a student working towards my doctorate in formulation engineering of medical materials. I registered as a stem ambassador earlier this year as I want to share my enthusiasm for the sciences, particularly chemistry, with children and young adults. Coming from a chemistry background by degree, I'm keen to inspire people in this branch of science as the subject has given me the opportunity to be where I am today. In the coming months I plan to get involved with activates in the area I'm registered in, which is Staffordshire. As well as the activities available to me to that I receive via email updates, I have a friend who works at a primary school that has offered for me to come in and do safe small-scale chemistry demonstrations (e.g. growing crystals, turning water into wine, iodine clock etc.). We originally planned to do this earlier in the year as part of a work experience week taking place at the school, however I was busy preparing for an overseas conference so I couldn't fully commit my time. Hopefully we can arrange for me to do this in the coming months. It is something I'd very much like to do as seeing those sorts of demonstrations is what inspired me to choose chemistry back at school (I still remember the first time I saw the iodine clock experiment!).

Charlotte Iosson

Y6 Summer School

Four Dwellings Academy

31st July 2014

The event was part of a two week introduction to the secondary school that the students would be starting at in September. The day I attended was focussed on maths and involved running team building exercises throughout the day. The school appreciated the help that I provided as it allowed the students to have more time spent with staff/volunteers in smaller groups. The students seemed to enjoy the activities and hopefully it increased the understanding of the application of maths to the real world.

There were roughly 30 students attending, split into groups of 5-6.

Careers Speed Dating at the British Science Festival

University of Birmingham

10th September 2014

The purpose was to inspire children between the ages of 13-17 to take up STEM subjects through A-levels and increase awareness about the varied STEM careers that exist. I spoke to at least 12 groups of 5-10 children at a time about my job at the moment, how I got into engineering and what I feel is important to consider when thinking about their futures. They were very varied in their aspirations and awareness of STEM subjects, other than pure science for example and so I encouraged the students to think about work experience to get a feel for the career that could be suited to them. I also got the opportunity to speak to some Post-16 students who were considering studying engineering and occasionally chemical engineering specifically, allowing me to explain the sponsorships that may be available and the value of contacting companies to understand how you could gain experience.

Peter Keeley

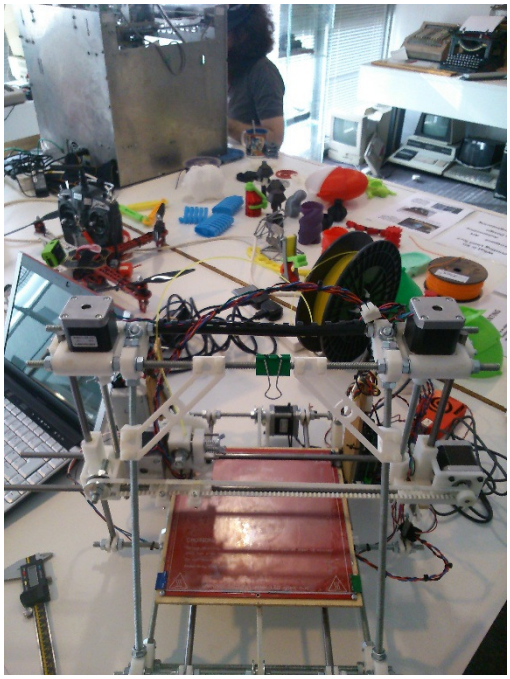
During the past year I have volunteered at the Museum of Computing in Swindon. The museum itself is relatively small and does not receive any funding from the local or national authorities and is entirely dependent on volunteers. The museum does however have an excellent collection of computer equipment, especially games consoles ranging from the early Spectrum consoles to the more recent X-box. The philosophy of the museum is to be as hands on as possible and so allows visitors to use and play with the machines which they find very refreshing.

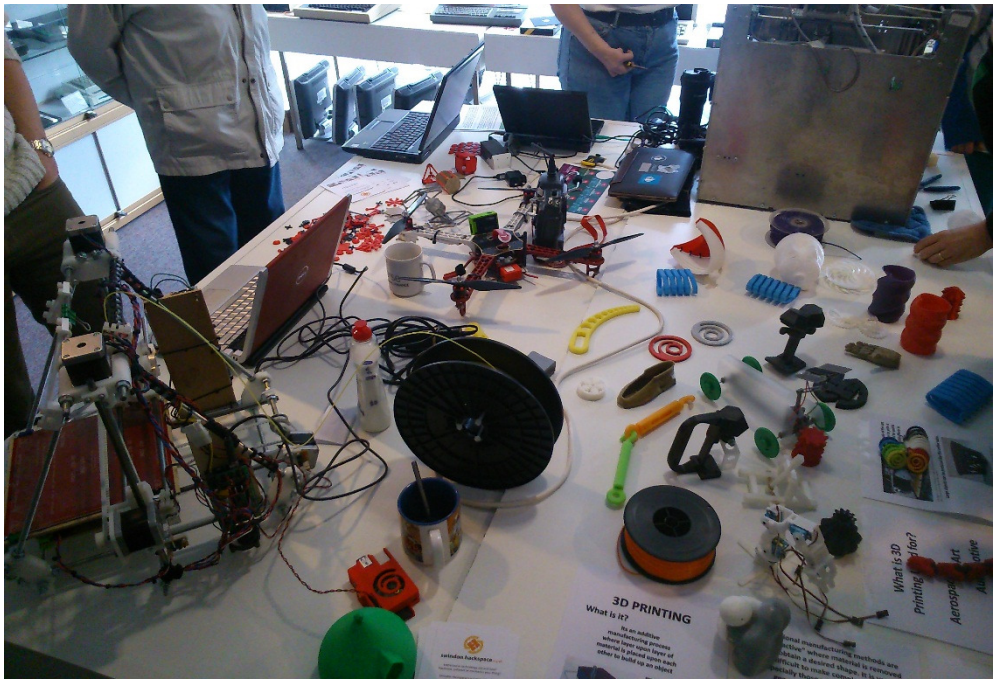
My role in the museum is to co-ordinate events. The major event of last year which I organised was for National Science and Engineering Week. For this event I organised a 3D printing exhibition and a robotics workshop. 3D printing is one of the in vogue technologies of the moment and has been ear marked to be a 'real game changer' in production technologies.

The exhibition's title was 'Step into the Future; Try the Technologies of Tomorrow' and saw a number of 3D printers being brought to the museum and being demonstrated live. It was chance for people to see 3D printing in action and most people commented that they had heard of the technology but have never see what they looked like or how they worked and so were very interested in the event. The 3D printing exhibition consisted of live demonstrations of the machines, but also a chance for people to operate a CAD software to learn how they can design things to be printed and then they could actually see their design being made; an example was a 'tardis' made by a 'Doctor Who fanatic'. There were also examples of items which have been 3D printed in the past including a shoe and a puzzle game. I also wrote information for people to read about the technology which described its principles, how it worked and some case studies of current applications of the technology including biomedical engineering examples which are linked into stem cell research another advancing technology of the future. On the day of the event I was able to talk to people about 3D printing and explain some of the drawbacks to the technology too so to discuss the real future applications of it and its potential role in the society of the future.

The event also consisted of a robotics workshop which was aimed mainly at children and it consisted of letting children programme robots to do a number of simple tasks. The workshop used a simple programming language which enabled to children to give instructions to a robot to move around a course which had some obstacles. Many of the children who attended the workshop had never done any programming before, however it was particularly important as programming has just entered the national curriculum and the museum has become quite involved in helping local schools teach programming on school trips as many teachers feel that their knowledge is not sufficient for the lessons. This is also something which I have been involved in although it is more on the organisational and communication side rather than teaching.

The event was well attended with approximately 80 people which, when considering the average footfall during the weekend is 5, was a great achievement which gained the museum a handsome bit of cash. Pictures of the event can be seen on the next page.





I plan to host another National Science and Engineering event next year although the name has now been changed to the British Science Week in a rebranding episode. I have not yet decided on what exactly the exhibition will be but the theme is 'Best of British', which could be interesting. I would also like to set up a larger event for the week which involves a collaboration with the other museums in Swindon, such as the Steam Museum who celebrate the railway and engineering industry in Swindon and the South West. My volunteering at the museum also consists of other roles such as front desk work, opening and closing the museum and helping to train other volunteers.

Anthony Kent

2014 School Visits

Dates: 12th, 19th, and 26th June, and 10th and 17th July 2014

Location: Unilever Research and Development Port Sunlight

Audience: Various schools took part. Pupils were in the either in the process of studying for their GCSEs or A-levels and so aged between 14 and 18. Group size ranges to 4-12 pupils at any one time. The schools that took part are:
Altrincham Grammar School for Boys
Sandwell Academy, West Bromwich
Calday Grange Grammar School
Oldershaw Academy
Catholic High School, Chester
UTC Life Sciences, Liverpool
Mossland School
Upton Hall School
Wirral Grammar School for Girls
Wirral Grammar School for Boys
West Kirby Grammar School
St Anselms
Prenton High School for Girls
Merchant Taylors
Tarporley High School
Bishops Blue Coat High School
Nether Stowe High School, Lichfield

Purpose and benefits from event:

The pupils were taking part in work experience run by Unilever Research and Development Port Sunlight. The aim is to give interested school pupils an insight into the sort of research conducted by scientists and engineers in the real world. In doing so it is hoped that they are helped in deciding course choices and see career options etc.

Details of activity:

Activities took place over one to two hours and depending on the level of the pupils may involve a variety of imaging and mechanical measurement techniques. Primarily I demonstrated three dimensional imaging of a surface through interferometry and profilometry. I also was involved in demonstrating tribological techniques and methods of mechanical measurement: indentation, nano-indentation and tensile testing.

Olga Mihailova

1. The Big Bang Fair 2014

   NEC, Birmingham

The Big Bang Fair attracts thousands of young people and their parents in a fun and interactive display of Science, Engineering and Technology. It aims at encouraging children to choose a STEM (Science, Technology, Engineering and Mathematics) subject for their future career and to demonstrate that there is a wide range of paths to choose.

13th of March, 2014 (Event Assistant)

On the first day of the fair I was working as an event assistant at registration. This involved meeting the school groups who have arrived for the fair, getting both the children and the accompanying adults registered, providing information about the fair and the special events running throughout the day.

14th of March, 2014 (Meet the Future You)

On the second day of the Fair I was one of 12 experts in the "Meet the Future You" booth. This activity ran every hour for approximately 40 minutes. As one of the experts I had to engage a group of children (up to 25 children, aged 10-16) by describing my job without using any words that would give the actual profession away. After all the experts described theirs the children were broken down into groups to try and match careers to people. For the second part of the activity the smaller groups of children (up to 5) were match with a group of experts in one of the fields (Science, Engineering, Technology or Mathematics) for a 5 minute Q&A session about the expert's experiences.

Below is a link to an impromptu interview given by the experts panel after one of the sessions

http://youtu.be/70zCLX4XsH4

15th of March, 2014 (Careers Booth)

On the third day of the fair I was stationed at the careers booth, where the visitors could come and take a quick test to check which STEM career path would suit them best. As a Careers Booth Assistant it was my task to help them out with the interactive tests as well as provide further information about the different career options. In addition to giving further information on particular careers it was also my task to advise which stands at the exhibition are best to visit to find out even more. Several thousand people visited the Careers Booth that day, where I and 9 other volunteers were stationed, with both children (ages 5 - 16) and adults attending.

2. STEM Centre Networking Meeting (10th of July, 2014)

School of Chemical Engineering, University of Birmingham

The meeting and networking event was organized to encourage experience exchange between STEM ambassadors from different backgrounds. It involved a tour of the Fuel Cell facilities at the School of Chemical Engineering as well as a networking session.

3. Internal Activities (Ongoing)

I have been involved in a number of tours given to prospective students as well as visitors from other universities and companies, promoting the research carried out at the School of Chemical Engineering.

Richard Moakes

Past work

Lab demonstrating during open days:

This allowed prospective chemical engineers to gain a first hand insight into the current research being incorporated into everyday products. This helped them to gain a better understanding on how their degree can be used in a practice way. It also allowed questions that they may have about technologies within the field to be answered.

Future work

Disseminate work through conferences

Work with schools to highlight chemical engineering

Aid with open days

Rikki Norris

Having engaged in outreach activities before starting my EngD, it is something that I am keen to take part in again. I have registered as a STEM Ambassador and hope to take part in related activities throughout this year. I have attended outreach workshops and training previously, but have yet to put it to use. I want to change that this year, and help to bring awareness of STEM careers to a wider audience.

Martin Riley

On the 6th June I was involved with the IOP's "Physics in the Field" tour at the Royal Cornwall Show. The tour travels all over the country and is designed to inspire interest in physical science amongst children, and hopefully spark interest for some illustrious careers in the sciences.

The roadshow involves "physics busking" – fun experiments intended to make science accessible and interesting, potentially to schoolchildren who might be tempted to write it off in a classroom context. It went down well with both young and old, the adult contingent usually requiring a bit more persuasion to try things out than the kids but enjoying them just as much when they did. A set of printed cards was available for families to take away and try these experiments and more at home.

The demonstrations were made from household objects and designed to show simple, yet somewhat counterintuitive phenomena. One involved pumping air out of a bottle containing a marshmallow. We would ask people what they expected to see and the replies would come, "the marshmallow will float up", " it will explode", "it will shrink", "nothing" etc. Then we would show the marshmallow expanding under reduced pressure and explain what was happening. There were a few correct guesses, not many who knew the answer to begin with, and a lot of surprise and amazement, especially when the vacuum was released and the marshmallow quickly shrunk back to its original size. It was really heartening to see something as basic as this give so much joy and wonder, and I vividly remember one boy blinking and covering his eyes – he really couldn't believe them! Of course after that he had to see all the other experiments and have all the science explained in detail. The level of interest far exceeded my expectations, especially from the adults who were often as stumped as the children about what would happen, and would then offer lots of guesses in a frantic attempt to get the right answer.

The Royal Cornwall Show is one of the largest agricultural shows in the country, attracting around 120,000 visitors over three days each year. As well as the showjumping and animal shows, there is music of all kinds, food and drink from across the county, royal visits, flyovers and a parachute display, dance displays, vintage cars and aircraft and all sorts of stalls and entertainment.

We were in the BBC Cornwall tent for the duration of the show, competing to be heard with several bands, dancers and a magician! Our line was that we had the real magic as opposed to deception, and we had a steady crowd throughout the day. There were five volunteers apart from myself, as well as Miranda from the IOP in Bristol who organised the event.

The full set of experiments along with information about the roadshow is available at http://www.physics.org/marvinandmilo.asp

Dmytro Stratiychuk-Dear

Name: Dmytro Stratiychuk-Dear

Sponsoring company: DuPont Teijin Films U.K. Ltd. (DTF), Redcar, TS10 4RF

Date started EngD program: 09/09/13

The aim of this report is to provide an overview of the public engagement activities planned and undertaken to promote the Engineering Doctorate programme as well as a career in Engineering as a whole.

Activity: ECP Chair (co-shared)
Date: 09 June 2014 onwards
Organisation: IChemE (Teesside Regional Group)

Since moving to the North East area I have become involved with the regional IChemE group. The group focuses on delivering technical talks such as "Key Things You Should Know About Explosion Hazards" as well as social events for the Chemical Engineers located in the Teesside area. In June I attended the Teesside Regional group's Annual General Meeting (AGM) where I took on the role of Early Careers Panel Chair which I am co-sharing with another committee member.

The role focuses on developing links between students of Chemical Engineering, mainly based at Teesside University, and professional Chemical Engineers at early stages of their career though organisation of various technical and social events. The networking opportunities that the events provide are especially useful to students who are applying for industrial placements and graduate roles. These can be vital sources of information, enabling the student to find out about the various types of jobs that are available to Chemical Engineers as well as the tasks that these jobs involve. The information gained through these relationships may help the students decide on which sector of the chemical industry they would like to work in as well as enable them to find out about the activities of various chemical companies located in Teesside.

Currently, I am involved in organising a social event which involves the designing of a poster, as well as discussion with a local pub in order to rent a space and have the ability to promote the IChemE. Future event ideas include Go Ape, Go Karting as well as a sports day which would enable the participants to develop team skills as well as act as a networking opportunity.

Activity: STEM Ambassador
Date: In process of joining
Organisation: STEM

I am currently in the process of registering to become a STEM ambassador. STEM is an organisation focused to promoting interest in Science, Technology, Engineering and Mathematics to students of various ages. Often society has predetermined ideas about what a career in STEM involves. By talking about the variety of jobs available, the ambassador's career path and providing guidance on

how to take a step onto a STEM career ladder, the students involved will develop a better understanding of a job that may appeal to them. At a young age in particular children are often inquisitive; if one can identify and promote this character trait more children may maintain their interest in the STEM area.

Activity: Guide for a Work Experience Student
Date: 3rd July 2014
Organisation: DuPont Teijin Films U.K. Ltd.

Together with James Champion and another colleague I acted as a guide on a tour of DTF's pilot plant facilities in The Wilton Centre to the visiting work experience student. During the tour I was able to discuss the roles of the technical staff at Wilton, my experiences at university and my career path so far, as well as current research that I am performing as a part of an EngD programme. The student was very involved and seemed interested in the nature of work undertaken at DTF and the EngD scheme as a whole. This event enabled me to promote a career in the STEM area.

Other Activities:

At Wilton there is a number of students who are undertaking a placement year with DTF as well as other companies. I am able to promote the awareness of an Engineering Doctorate programme by talking about my research and the scheme in general. I am also aiming to attend a conference this year which will enable me to promote the scheme to a wider audience.

Ioanna Zaffeiri

Public Engagement & Outreach Training Workshop:

In the beginning of August 2014, Jon Wood ran an outreach training workshop in the Department of Chemical Engineering. This half day event was designed to enthuse and inspire research students to take part in more outreach and public engagement activities.

The workshop comprised of a mixture of discussions, participation, personal experiences, videos showcasing activities that other PhD students were involved with, as well as real-time experiments designed for the public. The talk was aimed at helping students with two main areas: planning and performance. A wide range of sub-topics was covered, from identifying the needs, motivations and barriers that prevent someone from engaging with the public, to risk assessment and ways to craft performance on stage applying several performance tips.

The workshop allowed me, in the first place, to understand the breadth of opportunities and resources available. Additionally, the enthusiasm and the extensive experiences of the workshop coordinator in different public engagement events were greatly useful and inspirational. It gave me plenty of food for thought for moving my own research and ideas forwards, and motivation to take part in some of the upcoming outreach events (i.e. schools visits, Pint of Science etc).