

## Outreach, schools activities and public engagement



We see it as part of our role to inspire the next generation of young scientists, engineers and entrepreneurs. We visit local schools and welcome young people onto our beautiful campus to encourage exploration and understanding of the things we do and the opportunities available to them. Our academic schools have programmes of activities specific to their subject which run alongside our annual College of Engineering and Physical Sciences events for secondary school students on campus. Additionally our academics engage in university-wide activities designed to inspire and inform young people about their university choices.

Our outreach events compliment the University **Open Days** ([/undergraduate/visit/ug-opendays.aspx](http://undergraduate/visit/ug-opendays.aspx)) which provide a perfect opportunity to come onto campus to discover the breadth of educational opportunities that we can offer. Please explore the details of these outreach activities below, if you don't find an event or opportunity suitable for your school please get in touch with **Kat Grover** (<mailto:k.l.grover@bham.ac.uk>) to discuss your requirements.

## EPS Schools' Outreach Pages

For more information on outreach in specific areas please visit the following pages

- [Chemistry](http://schools/chemistry/services-schools/index.aspx) ([/schools/chemistry/services-schools/index.aspx](http://schools/chemistry/services-schools/index.aspx))
- [Civil Engineering](http://schools/civil-engineering/outreach.aspx) ([/schools/civil-engineering/outreach.aspx](http://schools/civil-engineering/outreach.aspx))
- [Computer Science](http://www.cs.bham.ac.uk/admissions/outreach.php) (<http://www.cs.bham.ac.uk/admissions/outreach.php>)
- [Electronic, Electrical and Systems Engineering](http://schools/eese/outreach-schools-liaison.aspx) ([/schools/eese/outreach-schools-liaison.aspx](http://schools/eese/outreach-schools-liaison.aspx))
- [Mathematics](http://schools/mathematics/outreach/index.aspx) ([/schools/mathematics/outreach/index.aspx](http://schools/mathematics/outreach/index.aspx))
- [Mechanical Engineering](http://schools/mechanical-engineering/about/outreach.aspx) ([/schools/mechanical-engineering/about/outreach.aspx](http://schools/mechanical-engineering/about/outreach.aspx))
- [Physics](http://schools/physics/outreach/index.aspx) ([/schools/physics/outreach/index.aspx](http://schools/physics/outreach/index.aspx))

## College of EPS Events

### Year 9 Girls in STEM Day

[Open all sections](#)

Each September we hold an inspiring day of interactive activities, talks and tours to encourage female pupils to continue studying Science, Technology, Engineering and Mathematics subjects.

This day is part of the University of Birmingham's pledge to the [Your Life campaign](http://www.yourlife.org.uk) (<http://www.yourlife.org.uk>) which aims to encourage young people, especially young women, to study Maths and Physics.



#### Teacher attending 2014 Girls in STEM Day

- "Truly inspirational for our girls"

#### Girls in STEM Day 2015

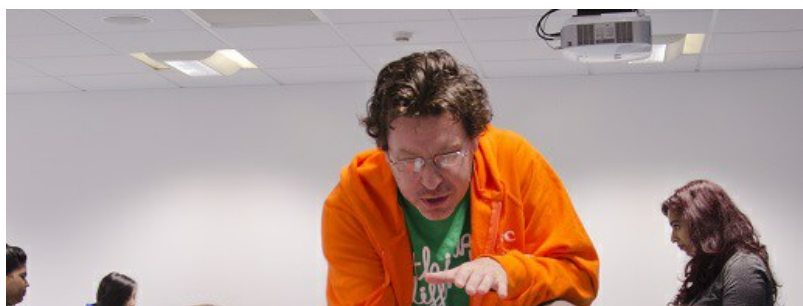
To be the first to hear about next year's Girls in STEM Day please register your interest with [Kat Grover](mailto:k.l.grover@bham.ac.uk) (<mailto:k.l.grover@bham.ac.uk>).

#### Girls in STEM Day 2014

The Year 9 Girls in STEM Day 2014 took place on the 17th September 2014. Dr. Ceri Brenner delivered the welcome talk to around 220 girls on her work at the Central Laser Facility as well as general information on STEM careers. In the morning girls took part in 2 of 11 workshops on a wide variety of STEM subjects and the afternoon consisted of a tour of the university. 87% of the attendees rated their day as "Excellent" or "Good" with 68% saying they were more likely to study STEM subjects in the future.

#### Girls in STEM Day 2013

The 2013 Year 9 Girls in STEM day was a great success with around 150 girls attending. They heard a talk from Professor Averil MacDonald and took part in workshops on topics such as Robots, Ice Cream, Black Holes and Racing Cars. 88% of the girls said they were more likely to study science at A-level after attending the Year 9 in STEM day 2013.





## Year 10 Discovery Day

Every June we offer a chance for year 10 pupils to discover the different subjects on offer from the University of Birmingham in the Engineering and Physical Sciences, this provides an opportunity to learn about new subject areas that can lead to careers in all sorts of fascinating industries. The day aims to inspire students to aim for high GCSE grades and to make appropriate choices for sixth form to allow the study of STEM subjects at University. More information on future Discovery Days can be found [here \(undergraduate/advice/services/discovery-days.aspx\)](http://www.bham.ac.uk/undergraduate/advice/services/discovery-days.aspx).

**Engineering and Physical Sciences Discovery Day 2015 will be held on the 23rd June.**



## Year 11 and 12 Engineering Taster Day

Our Engineering Taster Day in July is aimed at Year 11 and 12 pupils who are thinking about applying to university to study one of our subjects. The day is open to both school groups and individual students.

### Engineering Taster Day 2015

The next Engineering Taster Day will run on the **7th July 2015**. To be the first to hear about registration email your interest to [Kat Grover \(mailto:k.l.grover@bham.ac.uk\)](mailto:k.l.grover@bham.ac.uk).

### Engineering Taster Day 2014

The 2014 Engineering Taster Day took place on the 8th July 2014. Participants had a choice of taster sessions from:

- Civil Engineering
- Computer Science

- Electronic, Electrical and Systems Engineering
- Materials Science
- Nuclear Engineering

The majority of students who attended said they felt more informed about their university choices after attending the taster day.

## Headstart (Year 12)

Headstart is a summer residential course designed to encourage 17 years olds who have performed particularly well in their GCSE examinations, to consider science or engineering when making their higher education subject choices. It is one of the suite of courses run by the Engineering Development Trust (EDT) and has the backing of professional bodies, major global industries, charitable organisations and the armed forces.

At the University of Birmingham we offer a three-and-a-half day, themed, Headstart course in mid-July, at which students get to attend lectures, take part in hands-on lab projects and go on an industrial visit. Evening events include such things as bowling, a sports evening and an end of course dinner. This year the theme was Power and Energy.

### What do I need to be suitable?

The University of Birmingham is an internationally renowned research-intensive university that has been challenging and developing great minds for more than a century. Characterised by a tradition of innovation, research at the University has broken new ground, pushed forward the boundaries of knowledge and made an impact on people's lives. The Headstart course not only enables you to explore science and engineering and to work with those currently studying the subjects here, but is designed to reflect our beliefs and values and to offer you an opportunity to get a glimpse of what life at our university is like.

This course will suit you if you have a scientific and mathematics background and are interested in applying your skills and knowledge to tackle global problems and challenges. ...

For more information, or to register, get in touch with Headstart directly at: [www.etrust.org.uk/headstart/courses](http://www.etrust.org.uk/headstart/courses) (<http://www.etrust.org.uk/headstart/courses>)

### Headstart 2015 will take place from 13-16 July.

### Summary of Headstart 2014

Headstart is back! And it's as good as ever! After a break of a year or two, we decided that we couldn't get through the academic year without it appearing in our cannon of outreach events any longer. Headstart 2014 at Birmingham was super. The theme of the course was Power and Energy.

In July, twenty-eight seventeen year olds from across the UK, and beyond, joined us in an exploration of the challenges facing our planet in terms of our ever growing energy needs and ways to balance these against the need to protect its dwindling and very precious resources. Through lectures and labs, students were asked to think about the kind of infrastructure that might need to be put in place that not only created a fairer global society, with people everywhere able to access sources of energy, but that did this with super-efficiency and minimal cost to the environment. They threw themselves into projects and listened intently to talks and lectures, well aware that it will be their generation that will have to solve these problems and save the planet.



This was all underpinned by a highly popular visit to Jaguar Land Rover, where such things as fuel efficiency and environmental responsibility are taken very seriously and feed into new product design; and a great presentation by Dr Paul Withey of Rolls-Royce which is always received with enthusiasm and, itself, fuels a plethora of questions.

Rounding off the serious issues raised by the course were the evening events: bowling one night, an evening in the campus' Munrow Sports Centre the next and, finally, the end of course dinner at Hornton Grange at which students received their course certificates.

Well, not quite finally. On the Thursday morning we went for a quick tour of Birmingham city centre, which took in Brindley Place and its wonderful architecture, its canal-side cafes and the pitch-perfect Symphony Hall; New

Street and the Bullring (which have both been in existence since the Middle Ages); and then we had our 'all you can eat' lunch in the Chinese Quarter, before going our separate ways home. Actually, it was back to work for me.

Thank you all those of you who took part in Headstart, including the speakers and lab providers who dedicated precious time that would normally be spent on their research, to help bring these important issues to the fore in bright young minds. Thanks to the postgraduates, Joe, Emilie and Helen and to Teacher Supervisor, Glynn, who all supervised things so expertly and with great aplomb. But, especially, thank you to the Headstart students who were such a pleasure to have on our campus getting to grips with their roles of being 'undergraduates' and looking, I have to say, very plausible.

Feel free to take a look at some [photos of the event on Flickr \(https://www.flickr.com/photos/125561788@N06/sets/72157646176063790/\)](https://www.flickr.com/photos/125561788@N06/sets/72157646176063790/).

Edwina Cooke  
Headstart Organiser at Birmingham.

# University and Wider Activities

## University Outreach and Recruitment

Our academics work with the University Outreach and Recruitment teams who undertake a wide range of activities and provide resources for teachers, careers advisers and parents supporting students in making decisions about their future and preparing for University. Please visit the [Services for Schools and Colleges \(/undergraduate/advice/services/index.aspx\)](#) page for more details.

## Events for Younger Children and Families



Our [Community Days \(/community/communityday/index.aspx\)](#) are family-oriented events where everyone can come and interact with our academic staff, take part in experiments and play with some of the latest technological devices that are used in our pioneering research.



## STEMNET

The University of Birmingham is STEMNET's sub-regional partner for the Birmingham and Solihull region. For more information on how they can help you inspire and encourage young people in Science, Technology, Engineering in Mathematics visit the [STEM Centre \(/schools/STEM-centre/index.aspx\)](#) page.

## Engineering Education Scheme

### Engineering Education Scheme

The University of Birmingham hosts The Engineering Education Scheme which runs the residential experience project in December for year 12 students. They undertake a project mentored by professional engineering companies and produce an original piece of engineering. There is an awards ceremony in May.

#### About EES

The Engineering Education Scheme in England & Scotland is an EDT Programme which links teams of four Year 12 or S5/S6 students and their teacher with local companies to work on real, scientific, engineering and technological problems.

The scheme provides students with an in-depth experience in science, engineering and technology that will enable them to make an informed decision about their future studies and career.

This will be achieved by giving the students, in a 6 month programme;

- Hands-on work experience as part of a team
- Experience of problem solving, working on a project that is relevant to a local company
- Use of a university's engineering workshops to develop, build and test solutions to the problem
- Professional skills lectures on Communications (written, verbal and visual) and Project Management
- The opportunity to develop technical skills and see school physics, chemistry, technology etc applied in an industrial environment
- An opportunity to meet professional and graduate engineers, scientists and technologists
- Experience in presenting their solution, in a formal verbal presentation and formal written technical report, to a panel of senior professional engineers

Students will receive an EES National Certificate on successful completion of the programme and a Duke of Edinburgh Skills Certificate. They will also get the opportunity to compete for a British Association (BA) CREST Award.

During their six-month project phase, students are encouraged to show industrial enterprise, creativity and innovation whilst gaining extensive experience of problem-solving, team-working and project management. All key life skills are developed within the context of the world of work, [www.etrust.org.uk/ees/about-ees](http://www.etrust.org.uk/ees/about-ees) (<http://www.etrust.org.uk/ees/about-ees>).