

## Department of Electronic, Electrical and Systems Engineering Community

Part of  
THE EPS COMMUNITY



### Spring 2017

Greetings,

I am very pleased to be able to welcome you to the latest issue of the EESE newsletter. I hope that this finds you well and full of the joys of Spring.

Following the recent formation of the School of Engineering we have been through a time of change on the teaching side of our activities. We have just completed the second term of the new combined first year where students on Electronic and Electrical, Mechanical and Civil Engineering programmes now study the same material and work together on interdisciplinary projects. In the second year and beyond, these students will begin to specialise in their chosen disciplines, but they will still be studying together in second year engineering mathematics and in interdisciplinary projects in the later years. We believe that what we have here is an excellent combination. We are training specialist engineers who are well equipped to work in Electronics, Electrical Power, Communications, Computer Systems and many related fields, whilst also having the broad overview and appreciation of engineering systems and functions that future engineers are going to need more than ever in their graduate careers. If you have any thoughts or reflections on this development based on your own career experiences I would be very pleased to hear from you.

Several of those future graduate engineers joined a capacity audience in March for a lecture in the EPS Distinguished Lecture series given by Osman Kent, a Birmingham alumnus who graduated in 1981 with a degree in Computer Science and Electronics, which we hope will have inspired some of them to take up entrepreneurial career paths. There are further details of the lecture in the newsletter.

Even earlier in their engineering careers, 150 school children attended the first Lego League competition hosted by the School of Engineering in January. We continue to see

outreach events of this kind as vital to the future, both in increasing the numbers of young people inspired to enter engineering and in improving equality and diversity in the profession. You can find at more about this event further on in the publication.

Meanwhile we have many exciting developments in our research portfolio. Several recent grant awards have helped to establish our position as major players in mm-wave and THz electronics for future communications and sensing systems. Professor Lancaster and his team in Emerging Devices Technology have been awarded the prestigious Tatsuo Itoh prize by the IEEE Microwave Theory and Techniques Society. Dr Marina Gashinova and colleagues in the Microwave Integrated Systems Laboratory have won an Innovation Award from MBDA for work on passive radar. We are eagerly awaiting the outcome of a bid for government funding for a major expansion of our already highly successful railways research centre. Read on to find out more about our input to the upcoming commemoration of the 400th anniversary of the Mayflower voyage, and our pioneering work on the power and energy internet.

As ever, we are always pleased to hear from you about your news and experiences. If you would like to get involved in your old school/department or whatever it was called when you were here, for example through mentoring students, providing work placements or contributing to outreach events, please get in touch.

With best wishes

**Professor Peter Gardner**  
**Head of Department**



## Mayflower to set sail again after 400 years

The ship which took the Pilgrim Fathers from Plymouth harbour to the New World will sail again to celebrate the 400th anniversary of Europe's first colony in America.



## Defending against blackouts

First he had the 'lightbulb moment'; then he showed how it could stay on. Now Professor Xiao-Ping Zhang has demonstrated the technology is

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available to create a 'power and energy internet'.

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# WE ARE BIRMINGHAM

Our 300,000 alumni all share one thing in common: the University of Birmingham. From recent graduates to industry experts, aspiring leaders to inspirational movers and shakers, Birmingham alumni are making important things happen. Join the "We Are Birmingham" project and share your story with our students. You can inspire our students and offer an insight into the wealth of opportunities available to them. Plus, anyone who submits a profile before 1 July will be automatically entered into a draw to win a BrumBag full of University merchandise. Share your Birmingham story and help shape their future.

[SUBMIT YOUR WE ARE BIRMINGHAM PROFILE >](#)



## Alumni Spotlight

Osman Kent, Computer Science and Electronics alumnus and serial entrepreneur, returned to the University in March to deliver the latest EPS Distinguished Lecture.



## Microvolunteering

On Saturday 15 April we marked Microvolunteering Day with a range of bite-size activities that support the University in 15 minutes or less. Thank you to those who volunteered.

Osman spoke about his improbable journey from Turkey to Birmingham to Silicon Valley, and shed light on where he believes the future lies in building technology companies.

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If you didn't but would like to, there's still time!

In Electrical Engineering we'd like to hear your [feedback on our academic provision for engineering students](#).

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## University Reunion 2017

The Alumni Reunion 2017 provides a great opportunity to rediscover what made Birmingham "home" for you and to renew your lifelong connection to this special place. It's a fantastic time to reconnect with friends and classmates and see how Birmingham has grown into the university it is today. Join us for a day of reunion celebrations including campus tours, stress-free lectures, a chance to visit some of the latest additions to campus such as the new Library, and a plenty of opportunity to reminisce. There will also be time to visit us in Electrical Engineering to find out how we have changed since you were last with us and to meet some of our current academics and students.



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## Societies News

There are now six student societies affiliated with Electrical Engineering:

[EESE Soc](#), [DroneSoc](#), [UBRacing](#), [WISE](#), [oSTEM](#) and [SATNAV](#). It's been a busy year with many events, careers activities, sporting competitions and new committees, so there's plenty to update you on.

The College of Engineering and Physics Sciences is home to 25 student societies. Each does fantastic work to promote employment opportunities, industrial visits, guest speakers and, of course, social events.

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## EPS Societies' Awards 2017

Were you a member of a society while at Birmingham? Wish you had been? Or have you been impressed reading about the activities of our [current student groups](#)? Why not nominate them for Societies' Award?

These Awards celebrate the lengths to which our students go to make the University a better place to work and play. Join our celebrations by nominating your society. Maybe your former society will win the much coveted *Society of the Year* trophy. They need your help!

[NOMINATE >](#)

## News Round-Up

Imagine a radar screen on which, instead of 'blobs', appeared images of the objects detected by the radio waves – from a ship in the ocean to a pothole in the road. Such a display system may not be too far off, thanks to [world-leading research](#) being led at Birmingham by Professor of Microwave Engineering Peter Gardner.

A team of Birmingham electrical engineers are [helping to replace stolen fossils](#) using virtual reality and 3D printing technologies.

[Engineers of the future](#) descended upon the University to compete in the regional heats of a world-wide research and engineering competition, LEGO League.

Landmark signing provides boost to [Birmingham Life Sciences](#).

A recent BBC article on the [engineering gap](#) highlighted that women make up around just 8% of engineers in the UK. The Department of Electronic, Electrical and Systems Engineering is committed to providing a thriving environment in which female engineers can achieve their potential and advance their careers within the field of engineering.

The University has [assigned an agreement with Beijing Jiaotong University](#) for research experts to work together on developing technology to help make railways safer and more efficient.

[Paul Maynard MP, UK Parliamentary Under-Secretary of State for Transport](#), visited the Birmingham Centre for Railway Research and Education to meet leading digital railway experts and see the cutting-edge technology.

### **We'd like to hear your feedback on our academic provision for engineering students.**

The School of Engineering Teaching and Learning Centre is considering the skills that we believe should guide the development of our academic provision for students. We have developed a questionnaire for all stakeholders, including alumni, to effect the necessary curriculum change and deliver quality graduates. Against 17 questions, each describing a specific skill, we ask you "to what level did we equip you with this skill?". This is for us to ascertain how much emphasis we place in our programmes on developing this skill in relation to others. Please help us shape our curriculum by completing our [questionnaire](#).

## Events

### **Monday 15 - Wednesday 17 May**

#### **[Pint of Science](#)**

Leading University of Birmingham academics will be speaking about their cutting-edge research. We aim to bring some of the most brilliant scientists to discuss their latest findings with you. You don't have to have any previous scientific knowledge or training, and this is your chance to meet the people responsible for the future of science.

**Venue:** Various locations across Birmingham City Centre

### **Wednesday 17 May**

#### **[Birmingham - Fraunhofer Joint Research Platform Launch](#)**

The University of Birmingham is set to host the Birmingham – Fraunhofer Joint Research Platform Launch to establish closer ties with cutting-edge renewable energy technology in the UK and Europe.

**Time:** 9am-7:30pm

**Venue:** Elgar Concert Hall, University of Birmingham

### **Wednesday 7 June**

#### **[EPS Societies' Awards](#)**

Celebrate with your student society as we recognise their extraordinary achievements with a gala, black-tie evening.

**Time:** 7pm-11pm

**Venue:** Edgbaston Campus

### **Saturday 17 June**

#### **[UBRacing 20th Anniversary](#)**

Team members past and present, and motor sport enthusiasts are invited to join UBRacing in marking their 20th birthday and two decades of Formula Student at Birmingham. Join us for an afternoon of celebrations, take a peek at the 2017 car and be prepared for a few surprises.

**Time:** 1:30-6pm

**Venue:** Edgbaston Campus

### **Saturday 17 June**

#### **[Geotechnical Engineering 60th Anniversary Reunion](#)**

We are delighted to announce that the Geotechnical Engineering masters degree programmes are celebrating their 60th year. To celebrate this notable achievement the University will host Geo60, a celebration and reunion of the programme to which all alumni and interested persons are invited to attend.

**Time:** 9:30am-5pm

**Venue:** Edgbaston Campus

### **Wednesday 28 June**

#### **[Mathematics Taster Day](#)**

The School of Mathematics holds a Mathematics Taster Day for Year 12 pupils in the second half of the summer term. As well as information on studying mathematics at Birmingham, the day will include two sample lectures, a tour of campus and an interactive mathematics session.

**Time:** 9:30am-3:30pm

**Venue:** Edgbaston Campus

### **Tuesday 4 July**

#### **[Engineering Taster Day](#)**

Our Engineering Taster Day is for Year 12 pupils who are thinking about applying to university to study an engineering degree. The day will consist of an introductory talk, a tour of campus, a subject fair and an interactive workshop.

**Time:** 9:30am-3:30pm

**Venue:** Edgbaston Campus

### **Sunday 16 - Thursday 20 July**

#### **[IUPAP International Conference on Women in Physics](#)**

The International Union of Pure and Applied Physics (IUPAP) is delighted to announce that the 6th conference in this series will be hosted by Birmingham, UK. Organised in partnership with the Institute of Physics (IOP) and the Universities of Birmingham, Nottingham and Warwick, the Conference will foster the participation of women in physics and increase diversity in the field.

**Venue:** Edgbaston Campus

**Wednesday 20 September**

**[London Mathematical Society Popular Lectures](#)**

We are proud to begin the 2017/18 Birmingham Popular Mathematics Lecture series with the London Mathematical Society Popular Lectures, which are suitable for all who have an interest in Mathematics, and present exciting topics in mathematics and its applications. In this first event of the new academic year, David Tong (University of Cambridge) and Jason Lotay (University College London) will be speaking.

**Time:** 6:30-9pm

**Venue:** Elgar Concert Hall, University of Birmingham

**Saturday 30 September**

**[University of Birmingham Alumni Reunion](#)**

Join us for the big Anniversary Reunion on Saturday 30 September 2017. Whether you're celebrating your 50th anniversary or your 1st anniversary, come back to the Edgbaston campus and celebrate your University with staff, students and fellow alumni.

**Time:** 10am-5pm

**Venue:** Edgbaston Campus



**You are in control of your data. We want to stay in touch with you and keep your information in accordance with your wishes.** You will be kept updated with news from our campus, including research, educational activities and courses, events, alumni activities, and opportunities to support our fundraising. Depending on **[your preferences](#)**, you will receive communications via post, email, telephone and social media. We would like to ensure that our interactions with you are appropriate and cost-effective. We will pay attention to your responses (including e-tracking) and, from time to time, may use your data for profiling, targeting, and research purposes. Your information will be **[held securely](#)** by the University of Birmingham and will only be made available to our academic & administrative departments, recognised alumni groups, and trusted agents acting on behalf of the University. Information on how your data is held and used is set out in our **[Data Protection Statement](#)**. **If you wish to opt-out of any contact or have any questions**



about your personal data, please [contact the alumni office](#). For reference, our Inland Revenue Charities reference number is X7237.