



THE UNIVERSITY *of* EDINBURGH
School of Engineering

ENGAGE

Alumni Magazine



APRIL 2017



THE UNIVERSITY *of* EDINBURGH School of Engineering



Welcome to the redesigned alumni magazine for the School of Engineering. We are very happy to inform you about the exciting plan of events we have scheduled for next year, as we celebrate 150 years since the first Regius Chair of Engineering was appointed at the University by Queen Victoria.

If ever you were tempted to return and visit your old haunts, choose next year for your visit: on 5-6 October 2018 we are inviting you back for an Alumni Weekend, where we will be showcasing the exciting work of our current students, researchers and staff, and celebrating the impressive history of the School from which you graduated.

Looking further ahead, the School is planning an ambitious development project which will transform our many engineering buildings into an Engineering Village, with state-of-the-art facilities and study spaces. Architects are about to be appointed, to design the first phase of our new accommodation. The aim is to ensure our buildings reflect the spirit of innovation that will be found inside them.

Professor Hugh McCann, FREng, FRSE, FIET, Head of School



ENGINEERING150

Next year will mark 150 years since Queen Victoria established a Regius Chair of Engineering in the University of Edinburgh. This recognised the importance of engineering to the UK, and its excellence within the University.

The first Regius Chair of Engineering was Fleeming Jenkin, a 35-year-old specialist in railway engineering and telegraphy. Considered a bold choice, Jenkin was chosen over the renowned William John Macqorn Rankine, an alumnus of Edinburgh.

We will be celebrating the anniversary of this occasion during 2018. Please accept our invitation back to your School to see how it has changed (and perhaps the areas where it hasn't), discover what current students are doing and meet old classmates and professors. We will be hosting an Alumni Weekend on 5-6 October 2018 specifically for you where you can reconnect with old classmates, and explore the current work and activities of the School.

We would also like to hear about what you have been doing since you graduated. Are there any memories of your time here you would like to share? Would you like to organise a reunion with your former classmates or a tour of the school? Meet other alumni in your field of work?



**150th Anniversary of the First
Regius Chair of Engineering
at The University of Edinburgh**

**Alumni Weekend
5-6 October 2018**

ENGINEERING VILLAGE

In order to meet society's increasing demand for engineering skills, the School of Engineering is currently implementing an ambitious growth strategy.

By 2025 our student numbers are targeted to grow by around 40% while maintaining our high standards for student intake and staff recruitment. We are currently on track to meet this goal and in the past three years have exceeded our ambitious targets, alongside ever-more stringent entrance qualifications and an increase in research award values. Resource has also been added to particular areas of demand including Bioengineering, Materials Engineering, Tomographic Imaging, and Combustion Engines.

To aid this growth, the University is poised to appoint architects to undertake the detailed planning of the first phases of the Engineering Village. This is a major estates development for the School of new buildings co-located in the south-west corner of the King's Buildings campus. This development will provide state-of-the-art teaching and research facilities whilst facilitating the School's planned growth both in size and innovation.



Artist's impression of view across main arrival space at The Engineering Village. Courtesy of Bennetts Architects

HypED SUCCESS

HypED started in 2015 as a small group of individuals interested in Hyperloop - a new mode of transportation initially conceived by Elon Musk. The group participated in the SpaceX Hyperloop Pod Design Competition in Texas in January 2016. One of 1,200 contestants, HypED managed to secure one of the coveted 12 prizes.

The group was awarded the Subsystem Technical Excellence Award for their creative Modular Passenger Section design.

HypED has recently been selected to build a prototype for the global finals of "SpaceX Hyperloop Pod Competition", which will take place in late August at SpaceX headquarters in Hawthorne, California.

This has been helped by the generous contribution from alumni through the Vision Engineering fund, alongside further investment from the School of Engineering, Launch.ed and external sponsor companies. HypED is now the largest Hyperloop entity in the UK.

With the help of their official academic supervisor – Prof. Win Rampen - the excited team has also progressed to the semi-finals in another competition, the "Hyperloop One Global Challenge". The team will be presenting at the showcase event for Europe which will take place in Amsterdam, 6-7 June. Watch this space.

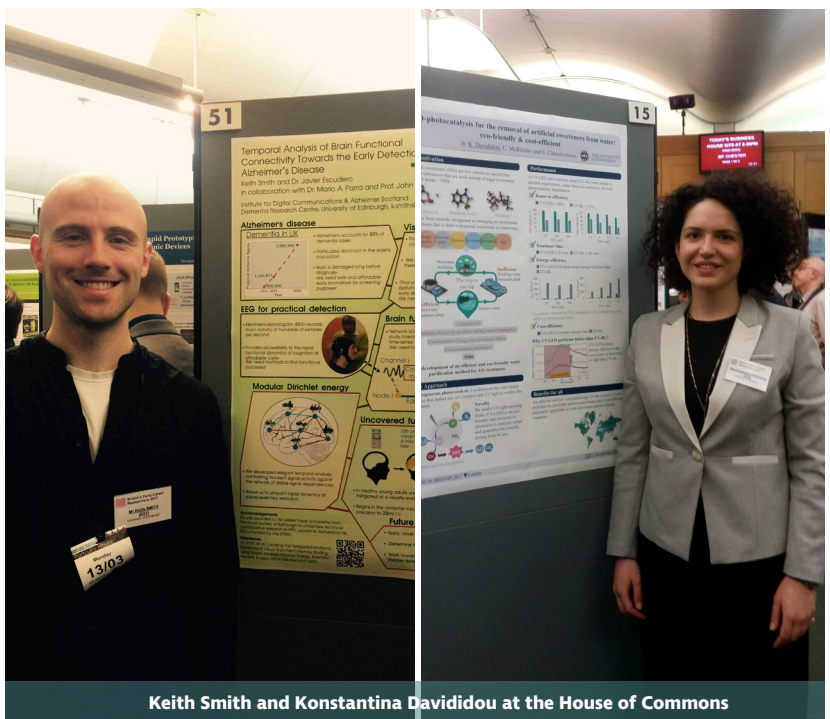
HOUSE OF COMMONS INVITATION FOR PHD STUDENTS

Four PhD students were selected to present their research at the STEM for Britain competition this March. Sorcha Daly, Konstantina Davididou, Michael Ross and Keith Smith attended the House of Commons on 13 March to present their posters and research to parliamentarians.

Keith Smith, from the Institute of Digital Communications, presented research which focuses on the early detection of Alzheimer's Disease. He is developing novel, affordable and safe methods to analyse brain activity which reveal underlying differences between those affected by the disease and those who are not, to enable detection at the crucial early stages. Based in the Institute for Infrastructure and Environment, Konstantina Davididou's work focuses on developing a cheap and highly efficient treatment method for the removal of artificial sweeteners from water.

The competition usually attracts over 500 entries, of whom just over a third present their work in Parliament.

Mr Stephen Metcalfe MP, Chairman of the STEM for Britain organising group of the Parliamentary and Scientific Committee, sponsored the event at the House of Commons during this year's British Science Week.



Keith Smith and Konstantina Davididou at the House of Commons

FORMULA STUDENT TEAM

Edinburgh University Formula Student is a student society which competes at the Student Formula Competition, where groups design, manufacture and then race their own car.

For 2017, the student team is aiming to improve their performance at Silverstone last year with a new, and better designed car. They hope to pass all the scrutineering checks to be able to race it.

More information [here](#).



VISION ENGINEERING FUND

The VisionEngineering Fund was launched last year with the aim of providing funds for material, equipment or travel to bridge the gap between exciting student project concepts and their delivery.

An appeal to alumni and supporters was made, with a very positive response: over £13,542 has been raised so far and several student projects have taken off thanks to these valuable funds.

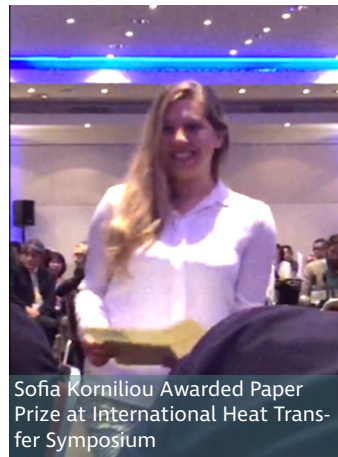
Participation in worldwide competitions, access to international expertise, and vital proof-of-concept for budding entrepreneurs have all been realised by groups of determined engineering students whose innovative ideas have the potential to impact and accelerate engineering and the future of its study.

Three student projects have been supported by the VisionEngineering Fund - HypED, Formula Student and InnSpace. Find out more [here](#).

STUDENT AWARDS



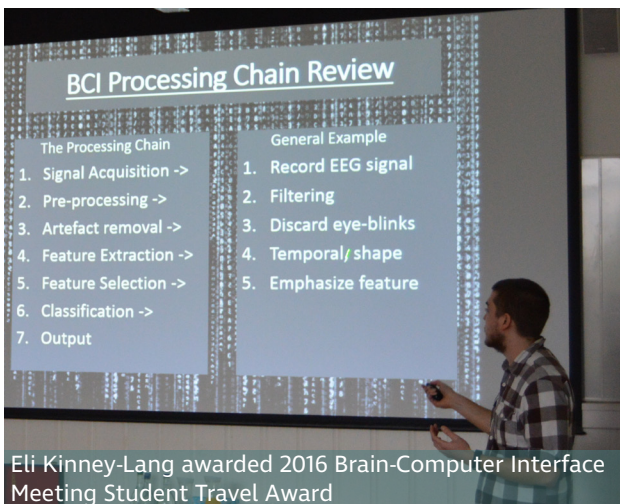
Anthony Gray Wins Poster Prize at ICOE 2016



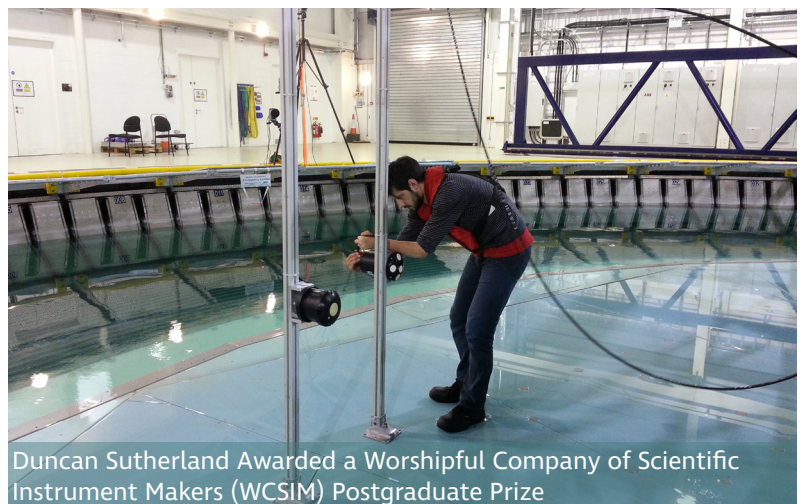
Sofia Korniliou Awarded Paper Prize at International Heat Transfer Symposium



'Best Fire Research Project' for BRE Centre PhD Student Felix Wiesner



Eli Kinney-Lang awarded 2016 Brain-Computer Interface Meeting Student Travel Award



Duncan Sutherland Awarded a Worshipful Company of Scientific Instrument Makers (WCSIM) Postgraduate Prize

EU-FUNDED PROJECT

Project ADVANTAGE (Advanced Communications and Information processing in smart grid systems) is an EU-funded research project exploring power and communications-engineering research in developing communities.

It is developing exciting research into the technical challenges of reducing carbon emissions and making the power grid smarter. The four year project has already made an impact with appearances at the Edinburgh International Science Festival and at EU Researchers' Night.

ADVANTAGE also hosted a one-day Smart Grid Seminar at the Royal Society in London, with a keynote address from Professor Damien Ernst of the University of Liege and a lively panel session addressing future research challenges in the area of Smart Grid.

[READ MORE HERE](#)



TEACHING AWARD

Congratulations to Dr Tim Stratford, who received The Institution of Structural Engineers (IStructE) Excellence in Structural Engineering Education Award for innovations in teaching design.

This winning entry describes how the University of Edinburgh has put creative design at the heart of its civil engineering degree programmes.

Civil and Environmental Engineering degrees now feature a design 'thread' from first year to final year, involving group design projects, individual design tasks, self-study and open ended problems.

The aim is to enable students to develop their own design skills through consideration of a range of real world design problems, to make mistakes and have opportunity to learn from them, to practice creativity, choice, compromise, and coping with confusion.

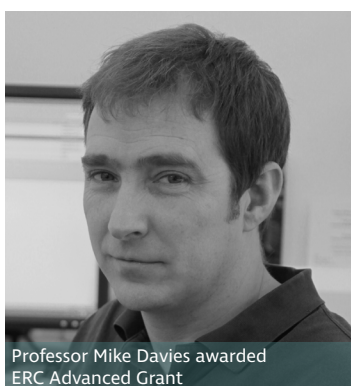
Congratulations also to Dr Sarah Christian, Dr Martin Crapper, Dr Alison Furber, Dr Martin Gillie and Dr David Rush who have also helped in the development of the design thread.



STAFF AND RESEARCH SUCCESS



Professor Win Rampen received the Joseph Bramah Medal for contribution to fluid power



Professor Mike Davies awarded ERC Advanced Grant



Dr Simone Dimartino (centre) granted the Csaba Horvath Young Scientist Award in San Francisco



Giant cluster formation: Edinburgh engineers collaborating on new £1.9M research project on "Green Manufacturing"



Prof. Alistair Borthwick FRSE awarded honorary degree from Budapest Muegyetem



Dr Javier Escudero, new member of Royal Society of Edinburgh (RSE) Young Academy of Scotland

In addition, three engineering Chancellor's Fellows were selected for the 2016 Scottish Crucible programme: Daniel Friedrich, Timm Krüger and Filippo Menolascina.

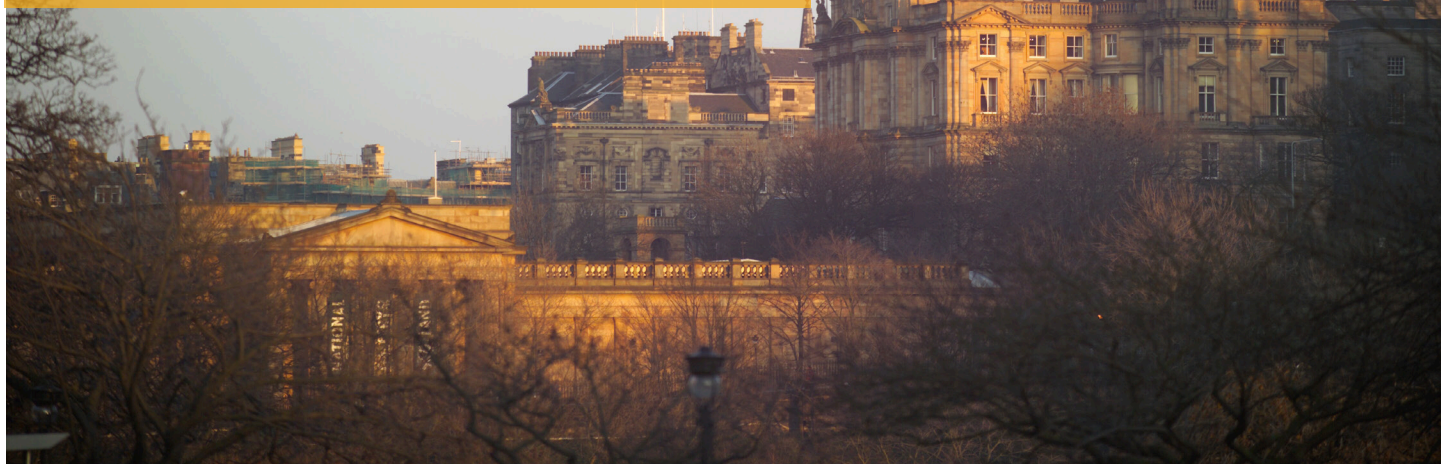
More information about our staff successes can be found [here](#).

NEW FELLOWS

Professor Jason Reese elected Fellow of the American Physical Society

Professor Mike Davies elected as new Fellow of the European Association for Signal Processing (EURASIP)

Professor Thompson elected a Fellow of the Institute of Electrical and Electronics Engineers (FIEEE)



WOMEN IN ENGINEERING ALUMNI EVENT

In February, eight alumnae spoke to a room of 50 students about their careers since graduating from engineering, the skills they had learned while studying and how this transferred to the workplace, and the routes they took to their current positions.

One student said:

"It was inspiring to hear stories of other women who have made great progress in their careers as Engineers"



Current students are very interested to hear about the career progression of engineering alumni. If you would be interested in sharing your story, then please do [get in touch](#).

This could be in the form of a short talk at a student careers event, being profiled in our Alumni section of the Engineering website, or getting involved in the University's mentoring schemes.

CIVIL ENGINEERING ANNUAL DINNER

On March 22 the Civil Engineering Society hosted its Annual Dinner at St Leonard's Hall.

Students, staff and industrial guests enjoyed a three-course meal followed by an after-dinner speech delivered by Professor Alistair Borthwick.



CLASS OF 1950s



Inside the Sanderson building in 1955... and 2016

Photo: Jim Lyon

On Tuesday 13 September 2016 the School of Engineering was delighted to welcome alumni who graduated in Engineering and Mining during the 1950s. The Head of School, Prof Hugh McCann, showed the group round the campus.

The alumni enjoyed a visit to FloWave, a research facility containing the world's most sophisticated ocean wave and current simulator. They also took time to revisit old haunts, including the Sanderson Building, which in those days was the only building dedicated to Engineering at The King's Buildings.

Photographs show some of our visitors studying in the drawing office in Sanderson c. 1955, where one alumnus recalled using his pump compass to ink in many a rivet. With advances in technology, the original purpose of the Drawing Office changed over the years, and it was later used as a classroom and meeting room until a major refurbishment in 2015. The modern Drawing Rooms are now located downstairs in the Sanderson. Our visitors saw a very changed space, as the area now houses the administration hub for the School.



Alumni from the 1950s met with Head of School, Professor Hugh McCann

DR BARBARA LANE ELECTED FREng



Many congratulations to 1997 Edinburgh PhD graduate Dr Barbara Lane, Technology Group Leader at Arup and Visiting Professor of Fire Safety Engineering at the University of Edinburgh, on her election as Fellow of the Royal Academy of Engineering (FREng).

In announcing Dr Lane's election, The Royal Academy of Engineering noted that:

"Dr Lane was one of the first to study, develop and bring to practice the explicit coupled analysis of structures and fire-generating methods that migrated from science to the mainstream. Before, fire safety engineering was a niche Dr Barbara Lane specialist discipline, and now it is a well-accepted mainstream profession."

KEEP IN TOUCH

UPCOMING EVENTS

School Research Conference 2017

27 April 2017

The Conference showcases the current work of our students and staff across Research Institutes in the School of Engineering. More information [here](#).

Guest Lecture

27 April 2017

Professor Jim Hough has been invited to the School to present a talk titled 'The Engineering Challenges of Detecting Gravitational Waves'. More information [here](#).

Inaugural Lecture

16 May 2017

Professor Conchúr Ó Brádaigh, Chair of Engineering Materials will discuss "Lightweight Composite Materials: How Far and How Fast?". More information [here](#).

Alumni Weekend

5-6 October 2018

A weekend of activities to celebrate the 150th anniversary of the first Regius Chair of Engineering at the University of Edinburgh. More information [here](#).

CONTACT INFORMATION

If you would like to find out more about any of our alumni events, reconnect with old classmates, visit us for the Engineering150 celebrations or for any other enquiries please do get in touch.

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