

UNIVERSITY OF
BIRMINGHAM

School of Metallurgy and Materials Community

Part of
THE EPS COMMUNITY



Winter 2014

Greetings,

As the 'season of mists and mellow fruitfulness' draws on towards winter, with shorter days and brown leaves underfoot, the autumn term is well under way. New students are settling in and laboratories, lecture theatres and computers are busy throughout the School.

This academic year our undergraduate numbers have been boosted by thirteen new arrivals from China. They join us in either the second or third year of our undergraduate BEng in Materials Science and Technology as 'direct-entry' students after studying for two or three years at one of our approved partner universities in China. For the first time this year, nine of them come from a new partner, Beijing University of Chemical Technology (BUCT) with which we hope to continue our fruitful good relations for many more years. Next year, academic staff from the School will visit China twice – once in spring on the usual round of interviews at partner universities in five cities and later in the summer to teach a one-week summer school for intending direct-entry students at BUCT (a new venture to complement others we have taught elsewhere in China and one we hope will become a regular feature of our recruitment activity.)

In further developments of our educational links with China, some of our [Nuclear Engineering students visited Xiamen University this summer](#) to help develop our research and educational links with China and the Chinese nuclear industry (details below). Some postgraduate students from Xiamen have begun PhD research at Birmingham, funded by the China Scholarship Council and we are also hoping to develop a partnership for direct-entry undergraduate recruitment. Dr Brian Connolly leads our nuclear engineering undergraduate programmes (which we teach in collaboration with the School of Physics and Astronomy) and also researches in this area.

In this newsletter we celebrate the ['topping out' ceremony of the new High Temperature Research Centre](#) – a collaboration between the University and Rolls Royce plc. Increased engagement with Rolls Royce at Derby has also led to the development of a new MSc programme, recently approved by the University, in Integrated Computational Materials Engineering (ICME). This course, the first of

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its kind in the UK and possibly Europe, is aimed at effectively training people to meet the demand in industry for modelling engineers. Students are supported by bursaries and the course develops our collaboration with Rolls Royce and a number of other major industrial concerns through the PRISM centre (Partnership for Research Simulation in Materials and Manufacturing). The initiative is led by Professor Jeff Brooks, Hanson Professor of Metallurgy and with Drs Hector Basoalto, Alessandro Mottura, Nils Warnken and Mark Ward.

Research aimed at beneficial environmental developments also features strongly in the School. Professors Gerard Fernando and Hanshan Dong are jointly leading a project (funded by the European Union) which aims to produce carbon fibres from bio-sources (cellulose and lignin). Professor Fernando's parallel work on the composites manufacturing process of clean filament winding, which reduces solvent use by 80%, is also developing strongly and an international patent is pending.

Finally, the School has been celebrating recently as Professor Mike Loretto of the Interdisciplinary Research Centre (IRC) in Materials Processing has won the Cyril Stanley Smith Prize from TMS, the Materials Society, for his outstanding contributions to the science and technology of materials structure and we congratulate him on this prestigious award.

These topical highlights are just a small part of the large research, scholarship and educational activity which continues to make the School of Metallurgy and Materials such an interesting, lively and successful place!

With best wishes,

Dr Stephen Kukureka
Deputy Head of School
Metallurgy and Materials

News from the School of Metallurgy and Materials

High Temperature Research Centre reaches the top



Construction of the University of Birmingham's High Temperature Research Centre reached a significant milestone recently as the University and contractor Wates Construction celebrated the development's 'topping out'. [Read more.](#)

Nuclear engineering students visit Xiamen for Clean Energy Summer School



Sponsored by EDF and the School of Metallurgy and Materials, four Nuclear Engineering students visited Xiamen, China, in June to participate in the Clean Energy Science and Technology Summer School. The Birmingham Centre for Nuclear Education and Research is forging links with the University of Xiamen in nuclear education and research and this three-week summer school programme was an important opportunity to strengthen ties and share expertise. [Read more.](#)

Birmingham University Materials Society – BUMS!



It's been a busy start to the year for the Birmingham University Materials Society (BUMS). The 2014/15 committee [tells us more](#).

Rocketry Society launch Project Chamberlain



The University of Birmingham Rocketry Society (UBRS) is the newest student society within the College of Engineering and Physical Sciences. The group are embarking on the significant task of launching their own liquid fuelled rocket into the earth's upper atmosphere in a challenge known as Project Chamberlain. Terry Moorton, President of UBRS and Director of Project Chamberlain, [tells us more](#).

UBRacing update



The 2014/15 year looks to be a busy but promising one for UBRacing. Iestyn Stead, Director of Media and Head of the Powertrain Team [tells us more](#).

College of Engineering and Physical Sciences at the British Science Festival 2014: Highlights



The College shone at the British Science Festival in September with over 30 contributions to the Festival's main scientific events and workshops and the Young People's Programme. From new robot technology to HS2 and the big bang, our scientists and engineers addressed the big debates and offered interactive activity to engage young people in STEM futures. [See more](#).

College offers 'headstart' to young STEM students



This summer, the College of Engineering and Physical Sciences continued to open its doors to young students from schools locally and nationally to give a taster of what might be to come. Promoting the study of Science, Technology, Engineering and Maths (STEM) disciplines, colleagues from across the 9 Schools hosted a range of innovative and engaging activities and challenges, including constructing scale bridges and external industry visits. [Read more](#).

Giving back



Did you know that College of Engineering and Physical Sciences graduates make up approximately 22% of the University's alumni population and are among the most generous donors to the Circles of Influence campaign? [Read more](#).

New staff in 2014

There have been a number of appointments in the School this term. **Read a summary of our new staff [online here](#).**

Your School needs you...

Would you be able to share some of your time, expertise or connections to help our students to succeed?

We're currently looking for help and support from alumni with the following:

- Work experience placements are invaluable for our students, allowing them to learn about the world of work first-hand and apply their knowledge in a real-life setting. If you work in industry and think you could offer a work experience placement to our undergraduate or postgraduate students, please [email us](#)

There are many ways in which you can give a little back, from providing a career profile, to mentoring a student. Please [email us](#) if you would like to get involved and we'll be happy to talk to you.

Events taking place shortly...

College and School events

EPS Inaugural Lecture Series

Thursday 27 November 2014

[Professor Jeremy Wyatt, Professor of Robotics and Artificial Intelligence, School of Computer Science](#)

Robotics is reaching a tipping point. The intelligence and robustness of robots increased hugely in the past fifteen years. This has allowed them to leave the lab and carefully controlled environments like the factory floor and enter our world. In this public lecture, aimed at the non-specialist, Professor Jeremy Wyatt will explain the achievements of intelligent robotics to date. He will also highlight some of the challenges we must meet to bring robots into our everyday lives. Finally, Professor Wyatt will highlight some of the work carried out at Birmingham over the past decade, particularly breakthroughs in robot planning, robot learning and robot manipulation. The lecture should be accessible to people from age 12 up.

Live robot demonstrations will be included during the evening.

Venue: Leonard Deacon Lecture Theatre, Medical School Building, followed by a drinks reception in the Wolfson Common Room, Edgbaston Campus

For more information on other lectures in the EPS Inaugural Lecture Series please visit

www.birmingham.ac.uk/eps/inaugural

Friday 28 – Saturday 29 November 2014

[The National Engineering & Construction Recruitment Exhibition](#)

Supported by the University of Birmingham, this is the largest engineering recruitment exhibition in the UK and with top companies including Network Rail, Amey, Canary Wharf Contractors, The Royal Air Force, Carillion and many more in attendance, this is your opportunity to find job vacancies, find answers to all your career-related questions and meet employers.

Venue: NEC, Birmingham

Monday 8 – Wednesday 10 December 2014

[International Conference on High Speed Rail - 8th-10th December 2014](#)

2014 marks the 50th anniversary of the first Shinkansen high speed line in Japan. The University of Birmingham is marking this historic occasion by holding an international conference on High Speed Rail

Venue: Edgbaston Campus

Tuesday 10 March 2015

[EPS Distinguished Lecture: Prof Dr PE Seeram Ramakrishna](#)

Longer life has always been a dream of human beings. Except for the recent one hundred years, the average life span was below forty for the past 10,000 years. Noticeable aging effects kick in as early as mid-twenties! More than a million medical devices have been invented to improve the quality of human life. What promise do they hold for humans to live beyond 100 years healthily and perhaps happily?

Venue: EPS College, Edgbaston Campus

Tuesday 9 June 2015

[EPS Societies' Awards](#)

Come and celebrate with our student societies as we recognise their fabulous achievements in 2014/15

Venue: The Great Hall, Edgbaston Campus

Saturday 20 June 2015

[EPS Alumni Reunion](#)

As a graduate of one of the nine schools in the College of Engineering & Physical Sciences (EPS), you are invited back to campus for a Summer Reunion to get together with your fellow alumni to celebrate your experiences, accomplishments and friendships at the University of Birmingham

Venue: Edgbaston Campus

University events

25 November – 3 December 2014

[The Edward Cadbury Lectures 2014](#)

The theme for 2014 is 'Is the New Testament Anti-Jewish?' and will consist of a series of lectures given by Professor Amy-Jill Levine, Vanderbilt University USA.

Venue: Edgbaston Campus

Thursday 27 November 2014

[Chaplaincy lecture - A Quaker astronomer reflects on the Universe and us](#)

This year's Chaplaincy Lecture will be given by Dame Jocelyn Bell Burnell, a prominent astrophysicist and Quaker.

Venue: Elgar Concert Hall, Bramall Music Building, Edgbaston Campus

Monday 8 December 2014

[Festive Drinks at the University Carol Service](#)

Organised by the University Chaplaincy and Department of Music, this is a joyful Christmas celebration for alumni, staff, students and families followed by mince pies and mulled wine in the Rotunda at 7.30pm.

Venue: Great Hall, Aston Webb Building, Edgbaston Campus

Thursday 19 February 2015

[Alumni vs Students vs Staff Quiz, 6.30-9.00pm](#)

Put your general knowledge to the test at an informal quiz in Joe's Bar, Guild of Students.

Venue: Joe's Bar, Guild of Students, Edgbaston Campus

Saturday 12 September 2015

[Golden and 50th Anniversary Reunion](#)

Alumni who graduated in 1965 or before are welcome to join for a special reunion lunch

Venue: Edgbaston Campus

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