



Imperial Bioengineer

December 2015

2015: a year to remember

by Dr Jenna Stevens-Smith

Outreach and Public Engagement Manager

2015 has been another great one for the Department. At the start of the year the Research Excellence Framework (REF) results were announced with 95% of the Department's research seen to be world-leading or internationally excellent. Our success continued in the National Student Survey (NSS) where we received 97% overall student satisfaction. Imperial as a whole has built upon the 2nd place ranking in QS World Rankings 2014-15, when it was rated the most innovative university in Europe in 2015.



Student numbers have continued to grow with 108 new undergraduates starting this year (49% female) and 92 MSc students (42% female). This week the Department's Athena SWAN team received our bronze Athena SWAN award at the national awards in Oxford. Over the next few months the Department's Equality and Departmental Culture committee (EDCC) led by Dr Claudia Clopath and Dr Guy-Bart Stan will be putting in place the Department's Athena SWAN action plan.

In the policy sphere this year has seen a Conservative government elected, the science budget protected in real-terms, proposals for scrapping HEFCE and replacing it with an office for students, introduction of a Teaching Excellence Framework (TEF) and the Nurse Review which proposed the introduction of Research UK. We will have to see what 2016 brings!

In social media the Department has continued to grow its presence with our tweets seen by on average 34,609 people each month.

Top 5 tweets were:

1. [8 women @ImperialCollege making a difference. 1 thing in common; they're all Mechanical Engineers #ILookLikeAnEngineer](#)
2. [Eleni identifies blood mechanical forces that make vessels more vulnerable to damage #ILookLikeAnEngineer #bioeng](#)
3. Great opportunity for #bioengineers "Call for Frontiers Innovators" <http://t.co/htEjoAqRNk> #health #bioeng #innovation via @WellcomeTrust
4. Good luck to students getting #GCSE results today. Remember if you want to do engineering at uni to do #physics & #maths #ALevel @PhysicsNews
5. [#suttontrust summer school @imperialcollege is complete; @ImperialBioeng are so proud of our #bioengineering track!](#)

On Facebook the most popular post was the post on [Anthony Bull's bungee jump](#) which reached 2,596 people, the video had 1,287 views and 176 likes, comments & shares. Closely followed by bioengineering success at the Student Academic Choice Awards which saw Martin Holloway win the best tutoring prize and Dr Tom Ellis and Liam Madden shortlisted. This post reached 2,532 and received 89 likes, comments & shares.

Keep up to date with the Department on social media:

[@ImperialBioeng](#) [facebook/imperialbioeng](#)

Synthetic Biology Hub UPDATE

by Dr Helen Findon, Outreach & Communications Manager, CSynBI

This month SynbiCITE ran a workshop in collaboration with DSTL. This workshop had 45 participants from academia and industry and looked at synthetic biology generated, novel materials for defence. We also organised a 4 day MBA. This interactive course covered the main strategies required to establish, build and manage a biotech company built around synthetic biology. Particular

focus was given to the early stages of setting up a company, getting funding and understanding the wider reaches of IP. This was presented along with case studies from experts in these areas. Plans are also well under way for SynBioBeta, the world's leading synthetic biology business conference. We are looking forward to hosting the event at Imperial from 6-8 April 2016.

WELCOME TO THE DEPARTMENT

Welcome to new starters

- **Louise O'Sullivan**
Head of student programmes

This month sadly two colleagues are leaving, we wish them all the best in their next steps:

- **Dr Caroline Copeland** who will be a Lecturer at St George's University of London.
- **Anastasia Sylaidi** from the Faisal Lab
- **Dr Diogo Miguel Gerald** BME MEng 2008 alum and postdoc in Mechanical Engineering is leaving Imperial to join Stanmore Implants.

GRANT SUCCESS

SBRI/Innovate UK awarded to Dr Spyros Masouros and Dr Angela Kedgley for *The new generation protective glove* in partnership with SME (Armourgel Ltd) Phase 1 contract (£100,000)

EPSRC 'Dragon's Den' meeting in Rehabilitation of non-union fracture **Dr Spyros Masouros and Dr Angela Kedgley** with Loughborough University and Headley Court awarded best pitch for collaborative project to *identify the best wearable tool that may quantify partial weight bearing* (£20,000)

PUBLICATION SPOTLIGHT

Be sure to check out the Department's recent publications:

Mark D.A. van Logtestijn, Peter J. Caspers, Sanja Kezic, Douglas R. Hoffman, David W. Koenig, Masahiro Ono, Georgios N. Stamatas, Reiko J. Tanaka, [Water resistance profile as a marker of skin barrier damage in atopic dermatitis patients](#), Journal of Dermatological Science, ISSN 0923-1811, doi: [10.1016/j.jdermsci.2015.10.017](#)

Castleberry SA, Almqvist BD, Li W, Reis T, Chow J, Mayner S, Hammond PT [Self-Assembled Wound Dressings Silence MMP-9 and Improve Diabetic Wound Healing In Vivo](#), Advanced Materials doi: [10.1002/adma.201503565](#)

Giuseppe Antonacci, Ryan M. Pedrigi, Avinash Kondiboyina, Vikram V. Mehta, Ranil de Silva, Carl Paterson, Rob Krams, Peter Török [Quantification of plaque stiffness by Brillouin microscopy in experimental thin cap fibroatheroma](#) Royal Society Interface November 2015. doi: [10.1098/rsif.2015.0843](#)

Koruk, Hasan, Ahmed El Ghamrawy, Antonios N. Poulipoulos, and James J. Choi. [Acoustic particle palpation for measuring tissue elasticity](#). Applied Physics Letters 107, no. 22 (2015): 223701.

CHANGES IN STUDENT ADMINISTRATION

From 16th December 2015, the Student Office's remit will expand to cover PhD student administration.

If you may need any PhD-related information or support, please contact Halima Begum, Samantha Kemp or Britta Ross.

NB: Melanie Albright will no longer be covering postgraduate research student administration.

OUT AND ABOUT

Dr Reiko Tanaka has been invited to give a lecture in the International meeting on "Perspectives on Biosystems via Control/Information Theory", which will take place in December in Tokyo.

On Dec 2nd, **Dr Claire Higgins** gave a seminar to the Institute of Bioengineering at QMUL on "Exploiting the inherent properties of dermal cells to engineer hair follicles".

Kai Arulkumaran, BICV Group, was invited to the Alan Turing Institute's Deep Learning Scoping Workshop, representing Imperial in discussions on the UK's future in this research field. The Alan Turing Institute is the UK's national institute for data science; it both fosters UK-wide collaborations with academia and industry, and informs government policy.

Both **Dr Higgins**, and **Helena Topouzi**, a PhD student in her group, attended and presented at the 9th World Congress for Hair Research held in Miami, FL in November.

STAFF & STUDENT SUCCESS

Liam Madden has been recommended for Fellowship of the Higher Education Academy (FHEA) following review by the STAR panel.

If you are interested in finding out more about STAR: <http://www3.imperial.ac.uk/staff/star-framework>

Of interest to anyone involved in any teaching activity.

Mr Carlo Bagnato, a PhD student working on pain robotics in the group of Professor Etienne Burdet, won student exchange programme grant from IEEE Technical committee on Haptics.

Stephen Gray, PhD student in the Weinberg Lab has co-founded Ourobotics with Jemma Redmond a 3D bioprinting start-up which was featured in [3D printing industry](#) this month



Congratulations to the Imperial Bioeng Mo-growers who raised the sum total of **£375** in aid of men's charities.

The team of 9 consisting of:

Melanie Albright, Dr Hari Arora, Dr Amanda Foust, Dr Sylvain Ladame, Dr Warren Macdonald, Dr Ian Radcliffe, Dr Jenna Stevens-Smith, Edit Toth and Dr Maximilian Wdowski

Undertook a combination of Moustache growing and physical activity for the 30 days of November.

[There is still time to donate if you wish to support their efforts.](#)



**Merry Christmas and
a Happy New Year!**
From the Department of Bioengineering

CALL FOR NEW POST DOC REP

Dr Emma Bailey is stepping down as a post doc rep and we need to new post doc to replace Emma in this role and work alongside Dr Stefaan Verbruggen to ensure Post Doc views and interests are represented across the Department. If you're interested or would like to find out more please email either [Emma](#), [Stefaan](#) or [Karen Hinxman](#) (Post Doc Centre).

Thank you to Emma for her fantastic work as a postdoc rep over the past few years, initiatives such as the annual postdoc symposium would not have been possible without her.

UPCOMING EVENTS

3 February 2016 from 13:00 in RSM2.28

CBIS seminar on Blast Injury Rehabilitation

Chaired by Prof Alison McGregor and will feature talks from our colleagues at Imperial, Headley Court and Blatchford.

7-8 May 2016

Imperial Festival

Imperial College London, South Kensington campus

15 June 2016 17:30-18:30

2016 Bioengineering Annual Lecture

Professor James Collins, MIT

Imperial College London, South Kensington campus

http://www.imperial.ac.uk/bioengineering/about/bioengineering_lecture/

4-7 July 2016

Eurohaptics 2016

Professor Etienne Burdet, Dr Ildar Farkhatdinov and Dr Franck Gonzalez are co-organising.

Imperial College London, South Kensington campus

Paper submission deadline: **1/02/2016**.

Website: www.eurohaptics2016.org

Building Clinical Research Networks by Dr Emma Burke, CBIS Centre Manager

The Royal British Legion Centre for Blast Injury Studies (CBIS) joins forces with St Mary's Major Trauma Centre London to ensure that lessons learned from its research of the battlefield injured can be translated to the civilian domain.

CBIS hosted its annual networking event this month with one objective, to stimulate research and collaboration in trauma. According to the Trauma Audit and Research Network (TARN), it is already the commonest cause of loss of life under the age of 40, the burden of which is set to increase in the next 20 years. The Royal Society for the Prevention of Accidents (RoSPA) estimates that around 19,000 cyclists are killed or injured each year on UK roads. Terrorist activities ensure that Improvised Explosive Devices (IEDs) are now no longer confined to the battlefield. Norwich, Bosley, Cardiff – 3 industrial explosions in as many months in 2015 that resulted in the loss of life and left numerous people severely injured. Trauma is a serious public health problem!

The Centre's event began with a welcome from the Provost. Prof Stirling announced that CBIS would later this month receive the President's Award for Outstanding Research Team. Drawing on some examples of the Centre's impact to date, Prof Stirling said that CBIS was working at the interfaces of Imperial's core disciplines, epitomising the College's ethos of multidisciplinary research excellence for translational benefit. Prof Anthony Bull and Shehan Hettiaratchy, outlined the Centre's role in the Bioengineering Trauma Initiative and the need for more evidence in major trauma in order to develop and evaluate new treatment to ultimately provide better patient care. Shehan is Chief of Service (Plastics, Orthopaedics & Major Trauma Services) at St Mary's Major Trauma Centre London and specialises in hand and wrist surgery and complex limb reconstruction. Session one saw presentations from Jan Jansen, Consultant General/Trauma Surgeon Aberdeen/London, Surgeon Captain Rory Rickard, Defence Professor of Surgery, Professor Matt Costa, Professor of Orthopaedic Trauma University of Oxford and Surgeon Captain Sarah Stapley, Defence Professor of Trauma and Orthopaedics. In the second session talks were given by Professor Karim Brohi, Professor of Trauma Sciences Barts Health NHS Trust, Squadron Leader Claire Webster, Vascular Surgeon/PhD student in CBIS, Mark Wilson, Consultant Neurosurgeon & Pre Hospital Care Specialist, St. Mary's Major Trauma Centre & London's Air Ambulance, Dr Mazdak Ghajari, Lecturer in the Dyson School of Design Engineering, Graham Lawton, Consultant Plastic Surgeon, Imperial College Healthcare NHS Trust and Dr Spyros Masouros, Lecturer in the Department of Bioengineering. The day ended with a poster session and a chance to chat with delegates. All in attendance agreed there is much yet to be done in the research and treatment of blast injury and major trauma, and that collaboration is key to its success.

For further information on the Royal British Legion Centre for Blast Injury Studies or the Imperial Trauma Initiative, please contact [Dr Emma Burke](#).

CONTACT

Send news for the next issue to:

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