



Imperial Bioengineer November 2014

DEPARTMENT OF BIOENGINEERING NEWSLETTER

Editorial

by Dr Jenna Stevens-Smith

Welcome to the new look Department of Bioengineering newsletter. As you'll see from the length this is a much more concise newsletter but it still contains all the essential news and happenings in the Department over the last month and lists the exciting events we have coming up through to the end of term.

There have been a number of new additions to the Department over the last month including our new crop of undergraduate and postgraduate students. A new Electronics teaching lab and specialist lab for AnUBIS.

The student Bioengineering Society has a new website and an exciting list of events up their sleeves for this academic year.

But not everything has changed; students and staff have continued to excel with student accomplishments detailed below. I am also delighted to announce that the Imperial iGEM team has finished 2nd overall in the 2014 competition today. Congrats to all the team and their mentor Ben Reeve for all the hard work they put into this project over the summer. Details of their project can be viewed on their Wiki <http://2014.igem.org/Team:Imperial>

STUDENT AWARDS



Undergraduate

Alireza Tahmasebzadeh won the Imperial College Medal for Outstanding Achievement and was given a medal by rector in the commemoration day. Alireza also won the Centenary Prize award from Old Centralian's Trust worth £1,000. His company, Blocks, won \$50,000 prize from Intel and is a finalist of Intel's Make it Wearable Challenge.

Undergraduate biomedical engineers **Henrik Hagemann, Bianca de Blasi, Matthew Murchie** and **Teodora Negoita** were all successful in receiving IET Awards this year.

Postgraduate

Glaucia Da conceição Pereira, PhD student in the Krams group received a Santander mobility award and prize from USP (University of Sao Paulo, Brazil) for a short term placement to carry on research about non-Newtonian effects of physiological flow in mechanotransduction, in arteries. Glaucia was also selected for a short term placement at the Cavendish Lab (University of Cambridge) to study the effects of non-Newtonian blood flow in drug effectiveness during inflammation.

WELCOME TO THE DEPARTMENT

The Department are delighted to welcome the following new staff and researchers to the Department. *Dr Ben Almquist, Paul Rinne, Karthik Ravichandran, Dr Stefaan Verbruggen, Melanie Albright, Dr Andriy Kozlov, Dr Emma Burke, Isobel Steer, Daniel Nolte, Dr Cristoforo Silvestri, Claire Webster, Dan Zaharie, Octave Etard, Anabela Areias, Richard Pangonis, Kalpani Vitharana, Anna Sharrock and Benjamin Goislard De Monsabert.*

BIOENGINEERING SOCIETY UPDATE



Bioengineering Society Website Launch

The new bioengineering society website is going to be key in taking students in Bioengineering further, obtaining sponsorship and really pushing the society to stand out amongst the other thriving societies at Imperial. All our events, ticket advertising and society information will be on the website, as well as information about the department and updates on Bioengineering. More info to come on the website as it's updated further! www.icbe.co.uk

MedTech Society Launch | 17 November

New entrepreneurship society for medical devices will be launched on the 17 November. The event will consist of an introduction to the society, and an introduction to the theme for the evening, such as improving the coping mechanisms in place during everyday life for the elderly. Students will be placed in into subject diverse groups, ranging from medicine to engineering to develop innovative ideas which can then be pushed further if desired. The society is partnered with Create Lab and interest is spreading quickly.

Department Pub Quiz | 27 November

The Bioengineering Society will be hosting the first ever Department Pub Quiz for both students and staff on the 27 November, complete with complimentary food and wine for only a small entry fee! The quiz will be a chance for students and staff to team up or work against each other in the most prestigious pub quiz going. Tickets will be available from the 4 November at www.icbe.co.uk

PUBLICATION SPOTLIGHT

Stevens Group members Dr Philip Howes and Dr Rona Chandrawati and Prof Molly Stevens have published a review entitled "[Colloidal Nanoparticles as Advanced Biological Sensors](#)" in Science.

Dr Eleni Bazigou, John Wilson and Prof James E. Moore Jr. have published a review entitled "[Primary and secondary lymphatic valve development: Molecular, functional and mechanical insights](#)" in Microvascular Research.

IN THE NEWS



Prof Molly Stevens named as one of The 1000 Most Influential Londoners 2014

Prof Molly Stevens was announced as one of The 1000 Most Influential Londoners 2014 in association with the London Evening Standard, the Bill & Melinda Gates Foundation, The Francis Crick Institute and the Wellcome Trust. Her selection was listed amongst the [top 24 most influential people in science](#). She has also been recently recognised with accolades such as the EU40 Prize for best materials scientist under the age of 40 and a listing in the Times for best scientist under the age of 40, amongst others.



New home for AnUBIS

So what have we done with AnUBIS? Our resident "tank" – the Anti-vehicle Underbelly Injury Simulator – has been relocated to an impressive new lab in the basement of Bessemer to allow for larger blasts to be simulated without fear of falling through the floor. With everyone keen to try out the new facilities and testing due to begin in the coming weeks, I'm sure AnUBIS won't be missed from the 6th floor.

Stevens Group members win first round of Biotechnology YES competition

Stevens Group members Shweta Agarwal, Harriet Gliddon, Sonia Hallen, Charis Kallepitis and Allie Speidel formed a team that won the first round of the [Biotechnology YES \(Young Entrepreneurs Scheme\) competition](#) with their novel bacterial/viral point of care device design. The purpose of the scheme aims to raise awareness of the commercialisation of bioscience ideas among early career researchers.



CBIS Annual Networking & Research Update Event

6 November From 13:00 in RSM301

Meet the new people of CBIS and catch up with the old. All are welcome.



SynbiCITE is a pioneering Innovation and Knowledge Centre (IKC) dedicated to promoting the adoption and use of synthetic biology by industry.

Lean Launchpad programme provides training in market segmentation, positioning, targeting, value proposition, cost structure, customer relationships, channel selection, and revenue streams. It is open for applications from members of SynbiCITE only, so if people are interested in the programme and would like to join SynbiCITE then they should contact our [Commercial Director, Dr John Collins](#)

<http://synbicate.com/training/lean-launchpad/>

SynbiCITE is supporting **LEAP2015**. The Synthetic Biology Leadership Excellence Accelerator Program (LEAP) envisions catalysing a next generation of leaders in synthetic biology by providing the environment to learn skills for engaging a broad range of stakeholders in the development of the field with a strong ethical foundation for the future. <http://synbicate.com/training/leap-2015/>



The Department's Dr Robert Learney and Dr Will Knottenbelt, Reader in Computing have successfully launched the cross-departmental **Imperial Bitcoin Forum** for the investigation of blockchain-based technologies in keeping with Rt Hon George Osborne MP's desire for London to remain the world's most innovative financial centre. The Imperial Bitcoin Forum has recently received £15,000 of funding from Entrepreneur First in order to run student competitions and are currently taking applications.

For further information check out their website: <http://www3.imperial.ac.uk/bitcoin>

BIOENGINEERING CAREERS

The **American Institute of Medical and Biological Engineering (AIMBE)** has released a new, comprehensive website <http://navigate.aimbe.org/> designed to inform, inspire, and excite students to pursue careers in bioengineering. The website helps students pursue pathways in bioengineering in a variety of mechanisms:

- **Career Pathways:** Identify pathways to careers in academia, industry, clinical medicine, and policy & government and discover what they really have to offer.
- **Inspiring Bioengineers:** Meet successful bioengineers through short video clips and articles, learn about their unique career paths, and gain advice about making the most of a career in this innovative field.
- **School Search:** Search over 175 medical and biological engineering undergraduate and graduate educational programs and institutions throughout the nation.

INNOVATIVE ALUMNI

Yohan Farouz, MSc Biomedical Engineering (2009-2010) has recently released an Android app on the Google Play Store that addresses many researchers' needs. It is called [EZPaperz](#) and allows researchers using Papers (the famous reference management software from Mektos), to synchronize their articles on their smartphones and tablets.

Hind Kraytem, MEng Biomedical Engineering (2009-2013) having set-up [Radial Genomics](#) a cancer diagnostic start-up in 2013, Hind is now on her second start-up UPROSA. [UPROSA](#) is a new brand bringing cutting-edge science and technology images fresh from the lab into the palm of your hands. If you are interested in getting involved with UPROSA [get in contact with Hind directly](#).

OUT AND ABOUT

Emeritus Professor Colin Caro gave an oral presentation at the BAS Autumn Meeting in Cambridge on Friday 26th September and was been invited to give a lecture at the Renal Research Forum on 2 October at Hammersmith Hospital.

Professor Etienne Burdet was invited to give a keynote lecture on "Motor interaction with robots and other humans" at the IEEE/RSJ International Conference on Robotics and Intelligent Systems. IROS is a dominant annual robotics conference with over 2000 participants that took place this year in Chicago 14-18 September.

Dr Jenna Stevens-Smith was invited to speak at St Paul's School and Bolton School in October to give students an insight into bioengineering. She was joined by Dr Robert Learney at St Paul's School who added his experience of biomedical engineering and introduced his area of research.



Bioengineers at BMES

Representatives from the Department were pleased to attend the annual meeting of the Biomedical Engineering Society (BMES), which was held in San Antonio, Texas, 22-25 October 2014. The Society was founded in 1968 and it is the professional society for biomedical engineering and bioengineering in the USA. It is growing rapidly and currently has around 6,500 members. Around 3,500 attended the Annual Meeting, which featured nearly 2,400 presentations! The Department of Bioengineering had a booth (pictured), which attracted a lot of interest and attention ranging from undergraduates very keen on studying at Imperial to professors interested in what we teach our undergraduates.

SCIENCE IN PARLIAMENT

Every March the Parliamentary and Scientific Committee hosts the SET for BRITAIN poster exhibition for early-career research scientists, engineers and mathematicians.

SET for BRITAIN exists to raise the profile of Britain's early-stage researchers at Westminster by engaging Members of both Houses of Parliament with current science, engineering and mathematics research being undertaken in the UK, especially that by their local constituents and in their local University.

In the 2014 competition Dr Claire Donoghue, Research Associate in the Bull Group won the Silver Award in the Engineering category for her poster entitled "Teaching machines to diagnose knee osteoarthritis from MRI".

DEADLINE FOR APPLICATIONS

17:00 5 December 2014

[Here's a link to further information and the application form.](#)



The Department is in the process of applying for a Bronze Athena Swan award. As part of our application and self-assessment the whole of the Department is undertaking electronic surveys. If you haven't already, please complete the survey by **14th November 2014**.

UPCOMING EVENTS



Department Seminars

6 November 13:00-14:00 RSM 2.28

Concerted operation of hair-cell transduction channels underlies the ear's sensitivity and frequency selectivity
Speaker: Dr Andrei Kozlov, Imperial College London

13 November 13:00-14:00 RSM 2.28

Microimaging: Seeing the unseen in living patients
Speaker: Guillermo J. Tearney, MD, Harvard Medical School

1 December 13:00-14:00 RSM 2.28

Organic-inorganic interfaces in mineralized tissue biology, implant osseointegration and bone wound healing
Speaker: Prof Marc McKee, McGill University

11 December 13:00-14:00 RSM 2.28

Diverging functions of fibroblast populations in human skin
Speaker: Dr Claire Higgins, Imperial College London

Further information about upcoming seminars:

<http://www3.imperial.ac.uk/bioengineering/events/departmentseminars>

Department Events

4-5 November Department Advisory Board

5 November Undergraduate Interview Day

6 November CBIS Annual Networking & Research Event

11 November Bioengineering Careers Fair (ICBE)
17:00-19:00 G01, Royal School of Mines

17 November MedTech Society Launch (ICBE)

26 November Undergraduate Interview Day

27 November Department Pub Quiz (ICBE)

3 December Undergraduate Interview Day

3 December Department Post Doc Symposium

10 December Postgraduate Open Day

12 December Christmas Jumper Day

15 December Christmas Dinner (ICBE)

18 December Department Staff Christmas Party

19 December Last Day of Term

External Events

13 November 18:00-19:30 Read Lecture Theatre, Sheffield Building

Battlefield to South Kensington: blows, bombs, blast, biomechanics, bioengineering and better care
Speaker: Prof Anthony Bull, Imperial College London

20 November 18:00-19:00 RSM 2.28

LE&RN Webinar

Speaker: Prof Jimmy Moore, Imperial College London

25 November 08:30-17:00 Institution of Mechanical Engineers, 1 Birdcage Walk

Westminster, London SW1H 9JJ

IMECHE: Recent Advances in the Tribology and Bioengineering of the Skin Seminar

Speaker: Dr Claire Higgins, Imperial College London
<http://events.imeche.org/ViewEvent?code=S6128>

FOR MORE INFORMATION

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