Imperial Bioengineer

January 2015

What is Research Excellence?

by Professor Anthony Bull, Head of Department

The university headline writers have furiously been finding ways to produce the most positive gloss on the recently announced results of the Research Excellence Framework, the government's peer review process to assess the quality of research in UK universities.

Imperial College has, as expected by us all, once again demonstrated that it is the leading technical university in the UK and is in the top three or four universities in the country (depending on the metric used). The story for Bioengineering is, quite possibly, even more positive. As all university departments are assessed in groupings relevant to their discipline and there is no 'bioengineering' grouping, our department was assessed under the General Engineering category. In direct competition with very large departments, some of which have more than 100 staff members, our 'small' department came third nationally out of 62 submissions. Fourteen of these 62 are predominantly Bioengineering (or Biomedical Engineering), and Imperial College came top in these.

So, what we can learn from these results is that the research in this department is internationally leading, has very wide reach and delivers societal impact as assessed by our peers. Didn't we already know this, and, if we did, then how did we know this? What is excellence in research and how would we choose to measure this? In its simplest form research excellence is measured at the level of the individual investigator in terms of, for example, publishing great research in the best journals or being invited to participate in national and international collaborations based on research expertise and great ideas. However, I would propose that we not only do this; we also make significant research advances in teams as a result of our collaborations, a strong feature in our young, growing department.

Let's celebrate the public recognition of our research excellence, and endeavour to not only continue to be excellent in ways assessed by others, but also define and achieve excellence as leaders and collaborators who deliver major societal impact.

SCIENCE FRIDAY SEMINAR SERIES LAUNCHED

Ever wonder what the other researchers in the Department are working on or the techniques they use? From 30 January you will have to wonder no longer when the **Science Friday Seminar Series** begins. Every Friday at 16:20 in RSM2.28, one of our esteemed colleagues (PhD student or Postdoc from the groups in Bioengineering) will take to the stage and give a special 30 minute seminar on their research.

The talks will have a bit more extensive background and be geared towards the broad audience that is our Department, so it's a great opportunity to learn what else is going on in the department and hopefully identify new, unique collaborative opportunities that will lead to exciting science down the road!

Following the seminar at 16:50 there will be a social hour for everyone to mingle, meet new people, discuss new ideas, and grab a bit to eat (courtesy of the Department).

For more information please contact:
Dr Ben Almquist (PhD champion) or
Dr Tobias Reichenbach (Postdoc champion)

WELCOME TO THE DEPARTMENT

The Department are delighted to welcome the following new staff and researchers:

- **Mr Sorin Popa**
  Visiting researcher for Dr Robert Dickinson
- **Dr Georgiou Panayiotis**
  Visiting researcher for Dr Mengxing Tang
- **Ms Sarah Khaled**
  Visiting researcher for Dr Angelo Karunaratne
- **Miss Rebecca Quest**
  Visiting researcher for Dr Robert Dickinson
- **Miss Virginie Papadopoulou**
  Research Assistant to Dr Mengxing Tang
- **Dr Louise McMenemy**
  Visiting researcher for Dr Spyros Masouros
- **Ms Gosia Kalinowska**
  ISBE Project Administrator
- **Miss Elisa Dominguez Huttinger**
  Research Assistant (previous Bioeng student) for Dr Reiko Tanaka

GRANT SUCCESS

EPSRC Awarded to Dr Xize Niu at University of Southampton, co-investigated with **Martyn Boutelle** (Grant Title: Lab-on-an-Organ: A droplet based portable continuous chemical sensor) total £830,136.00.

EC: Research and Innovation action awarded 800,000 EUR project funding to **Professor Etienne Burdet** as part of the Cognitive Interaction in Motion- CogIMon project (total 6,000,000 EUR)

EC: Research and Innovation action awarded 1,200,000 EUR project funding to **Dr Aldo Faisal** as part of the eNHANCE project (total 4,000,000 EUR) towards eye-based control of prosthetic and orthotic devices.

PUBLICATION SPOTLIGHT

Be sure to check out the Department's recently published works below:

Timothy Bonner, Nicolas Newell, Angelo Karunaratne, Andy Pullen, Andrew Amis Anthony Bull, Spyros Masouros
"Strain-rate sensitivity of the lateral collateral ligament of the knee"
Journal of the Mechanical Properties of Biomedical Materials
Vol 41 Pgs 261-270 Jan 2015

Emma Bailey
"Differential gene expression in multiple neurological, inflammatory and connective tissue pathways in a spontaneous model of human small vessel stroke"
Neuropathology and Applied Neurobiology
Vol 40, Iss 7, pgs 855–872, Dec 2014

OUT AND ABOUT

Inaugural Imperial College Winter School on Neural Engineering held on the 8-9 January, jointly organised by the Centre for Neurotechnology and the EU Marie Curie Initial Training Network on Neural Engineering. Our EU Fellows, Romain Cazé, Stefania Garasto, Luca Annecchino and Renaud Schuck were instrumental in organising the Winter School, together with Kate Hobson and Simon Schultz for the Centre for Neurotechnology.

Dr Jenna Stevens-Smith ran a Public Engagement Workshop for the Faculty of Medicine on 13 January. The workshop which was attended by patients, researchers, clinicians and physios focussed on how to design a public engagement activity.

Professor James E Moore was invited to speak at the Imperial College Surgical Society's Innovation day on 17 January and **Dr Ian Radcliffe** was the workshop lead for eldery care in medicine session.

Science Museum Lates Dr Ian Radcliffe, Dr Jenna Stevens-Smith, Dr Michelle Rogers and Dr Agnes Leong all attended represented Imperial Bioengineering at the Engineering themed Lates event on 28 January. Showcasing the ways we are enabling lives through sports innovation and brain biosensor technology.

Centre for Neurotechnology Colloquium held on 28 January. Speaker was Rodolphe Sepulchre from Cambridge University who delivered a seminar entitled *"Sensitivity analysis of neuronal behaviours".* The Colloquia occur approximately once per month, and are followed by a drinks reception.

Innovation news

Innovations leads £18 million Series B funding round in Veryan
http://www.imperialinnovations.co.uk/news-centre/news/innovations-leads-18-million-series-b-funding-roun/

Centre for Blast Injury Studies Update

by Dr Emma Burke, Centre Manager

History in the making, a Dr in the house & a brand new seminar series!

This month we welcome Dr Emily Mayhew, Historian in Residence, to the Centre. Emily is a military medical historian specialising in the study of severe casualty, its infliction, treatment and long-term outcomes in 20th and 21st century warfare. Emily joined CBIS to work alongside scientists and clinicians to compare military medical history with today's medical and scientific research into the consequences of blast injury in both military and civilian injury contexts. You may recognise the name from a study highlighted in The Lancet in November, which Emily co-authored with Taff Edwards, another member of CBIS.

Congratulations to Dr Dilen Carpanen who successfully defended his PhD in Computational Biomechanics this month. Dilen's current role in CBIS is to support the numerous CAD/CAE research students and projects within the Centre.

February 4th is a date for your diary, with the first of a new series of specialised seminars focusing on the Centre's clinical priorities. A termly event held in RSM 2.28, the first will focus on Traumatic Brain Injury led by Dr Mazdak Ghajari. Keep an eye on our website for further updates http://www3.imperial.ac.uk/blastinjurystudies/news/events

Contact: Dr Emma Burke for more information.

UPCOMING EVENTS

Departmental Seminars

05 February 13:00-14:00 RSM2.28
Professor Ben Fabry
University of Erlangen-Nuremberg
Migration, force generation and machanosensing of tumour cells in 3-dimensional environments

12 February 12:00-13:00 RSM2.28
Professor Daniela Nigrini
Università degli Studi dell'Insubria
Initial lymphatics: the tricks of a performant machinery

19 February 12:00-13:00 RSM2.28
Professor David Vaux, *Oxford University*

26th February 2015 12:00-13:00 RSM2.28
Dr Joerg Albert*, University College London*
From the molecular bases of mechanotransduction to the mechanosensory bases of behaviour: lessons from the fruit fly.

For more information, visit:
http://www3.imperial.ac.uk/bioengineering/events/departmentalseminars

Bioengineering Researcher Events

NEW: Science Friday Seminar Series launched

16:20, 30 January RSM 2.28

Elisa Dominguez-Huttinger Biological Control Systems Lab (PI: Dr Reiko Tanaka) will present her talk titled: *"Uncovering the Disease Mechanisms of Atopic Dermatitis through Mathematical Modelling"*

Postdoc Reps Dr Emma Bailey and Dr Angelo Karunaratne organised a CV clinic for Bioengineering Postdocs with a rep from the Post Doc Centre on 22 January.

Contact Emma or Angelo if you'd be interested attending events like this in the future or if you have ideas for other local Department events or training.

Imperial Events

4 February 14:00-18:15 RSM2.28
CBIS Seminar

10 February 18:00 SAF Seminar Room 120
MedTech Society Melting Pot

11 February 14:00-16:00 RSM 1.47
Deep Learning Tutorial (dlnetwork.org)

9-13 March Women@Imperial Week
A week celebrating the achievements of women at Imperial

9-10 May Imperial Festival www.imperial.ac.uk/festival

4-5 June
BME-IDEA/BioDesign EU Symposium

External Events

25 February 14:00-18:15
Biophysics and bioengineering across scales - from molecules to tissues- Francis Crick Institute Symposium
Location: Beveridge Hall, Senate House Library, Malet St, London WC1E 7HU

CONTACT

Send news for the next issue to:
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