



Imperial Bioengineer

December 2014

Seasons Greetings

by Jenna Stevens-Smith



As the Autumn Term draws to an end and we all go our separate ways for the festive season. We have one last newsletter to celebrate the great people and their work which has gone on in the Department over the last month.

Firstly a special congratulations to Vee San Cheong (Bull Group) who passed her PhD viva on 12 Dec and to Dr Claire Donoghue who was awarded a Software Sustainability Fellowship from the Software Sustainability Institute. Thanks & congratulations to PostDoc Reps Dr Emma Bailey and Dr Angelo Karunaratne for the fantastic inaugural Department Postdoc Symposium they ran on 3 Dec.

In this edition of the newsletter we celebrate the grant and publication successes of Niamh, Jimmy, Chiu Fan and Claudia. Welcome new colleagues to the Department, and a new arrival to the family of lecturer Dr Ben Almquist.

The Department would also like to announce that Dr Claire Higgins will be the new seminar coordinator from January 2015. Claire will be taking over from Dr James Choi who has been seminar coordinator for 2014. Thanks to James for organising a fantastic selection of seminars for 2014 and best of luck to Claire for 2015.

Lastly thank you to all who took the time to complete the Department Athena Swan Survey. The Athena Swan process is one which is focused on equality and ensuring the Department has a culture which is supportive of everyone independent of their gender, ethnicity or stage of career.

We will be running a number of focus groups in the new year so if you are interested in being involved please send your expressions of interest to Jenna.

WELCOME TO THE DEPARTMENT

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

Mr Karthik Ravichandran

Research technician on an Imperial Confidence in Concepts-BRC/Innovations Therapeutic Primer project

Mr Tomaso Muzzo

Part-time research assistant

Dr Jiaqi (Joseph) Huang

Research associate for Holger Krapp

Dr Olivier Borkowski

Postdoc for Tom Ellis

Dr Amanda Foust

Researcher

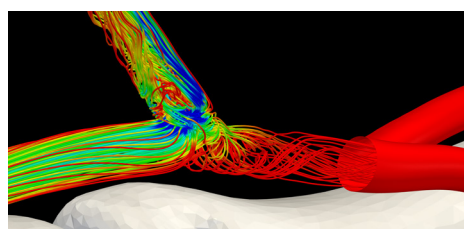
GRANT SUCCESS

Dr Niamh Nowlan who has been awarded a Leverhulme Trust Project Grant (£296,349) together with Dr Michelle Oyen (University of Cambridge) and Prof James Iatridis (Mount Sinai School of Medicine). In the research, they will be investigating how fetal movements affect development of the spine.

Professor James E. Moore has been awarded a BBSRC grant (£180,000) to purchase a 3D Bioplotter for the Department.

Merry Christmas and a Happy New Year to you all!

FLUID IMAGERY



Award winning image from Lorenza Grechy, Francesco Iori and Richard Corbett of the Circulatory Fluid Mechanics Group,

The image, generated by Lorenza Grechy, Francesco Iori and Richard Corbett of the **Circulatory Fluid Mechanics Group**, was the winner of 'Images in Nephrology' at the Nephrology Section meeting at the Royal Society of Medicine. The image is a computational fluid dynamic model of blood flow within an idealised

arteriovenous fistula. The arterial vasculature was recreated from a Computed Tomography scan of a human forearm, with an idealised fistula formed by connecting the vessel to the outer curvature of the brachial artery. Flow is from left to right and upward into the fistula; temporal snapshots of streamlines are coloured according to velocity magnitude on a continuum from blue (high) to red (low).

PUBLICATION SPOTLIGHT

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

Chiu Fan Lee: "Thermodynamic Costs of Information Processing in Sensory Adaptation"
PLOS Computational Biology

Claudia Clopath: "Oscillations emerging from noise-driven steady state in networks with electrical synapses and subthreshold resonance"
Nature Communications

OUT AND ABOUT

Dr Spyros Masouros was invited to speak at the University of Cambridge, Surfaces, Microstructure and Fracture Group Colloquia on 13 Nov about *"Understanding human injury from under vehicle explosions"*

Professor Etienne Burdet gave a talk at A*STAR SimTech, Singapore titled "Skill transfer from human to robot"

Dr Martina Wicklein's "Flies Uncovered" stall was one of five selected from Imperial Festival for the annual Imperial College Donors event on 25 Nov, which was attended by over 400 invited guests. The stand was manned by Martina Wicklein, Ben Hardcastle, Peter Swart, Despoina Pashou, and Huang Jiaqi.

Imperial iGEM team were invited to present their work to the Synthetic Biology Leadership Council which was attended by the Minister of Life Sciences (27 Nov). They were also invited to **Biofabricate** in New York to present our work to CEOs of synthetic biology companies (4 Dec).



Centre for Blast Injury Studies Update

by Emma Burke

Despite November getting off to a rocky start with a misleading and insensitive article in the Mail on Sunday, the weeks that followed were very positive for CBIS. The Centre hosted another successful Networking and Research Update Event, opening its doors to researchers, industry collaborators, charity representatives and military and medical personnel from across London and the UK; all keen to see and hear about the cutting edge research of the Centre and its future plans to develop the rehabilitation theme and support work in regenerative medicine.

The evening ended with a poignant narrative, reflecting on the past, present and future of trauma research and care in a commemoration of the First World War Centenary. The talk, *Battle to Blighty*, was written by Major Taff Edwards and Dr Emily Mayhew, directed by Hannah Eidinow (London and New York theatre director) and starred Alan Cox (London based Hollywood actor).

Major Taff Edwards, MD(Res) was awarded the Montefiore Memorial Medal for his study on estimating the projected costs of the Afghanistan amputation cohort which will inform long term national medical service planning to look after veterans. In addition to this, Taff's research on the understanding and treatment of amputation-related pain during the Great War, and indeed due to conflicts today, was published in the Lancet. Such recognition highlights the distinguished areas of surgical research and application that the Centre continues to be embedded in.

Early December saw the final Research Days seminar of 2014 and an opportunity for the new PhD students of the Centre to present their research plans. With a new format being launched in 2015, CBIS Research Days promises to be an exciting and worthwhile seminar series not to be missed.

Contact: e.burke@imperial.ac.uk for more information.

UPCOMING EVENTS

Departmental Seminars

20 January 12:00-13:00 RSM2.28

Professor Liesbet Geris, University of Liege

29 January 12:00-13:00 RSM2.28

Dr John Connelly, Queen Mary University of London
Dissecting the wound microenvironment using engineered model systems

05 February 13:00-14:00 RSM2.28

Professor Ben Fabry, University of Erlangen-Nuremberg

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

For more information, visit:

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

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

In the news

Laboratory News (17 Nov) 'Mexican wave' effect key to brain function (Clopath)

BBC Click (6 Dec) Motion Sensor Lab (Bull, Henson)

Sky News Swipe (13 Dec) Rio Tinto Sports Innovation Challenge

Department Updates

Robot Network Aldo Faisal and Etienne Burdet have been nominated to be part of the executive committee of the robot network forum. A robotics forum connecting the many groups at Imperial with robotics activity. <http://www3.imperial.ac.uk/robot>

Department Seminar Coordinator Claire Higgins will be taking over from James Choi as Department Seminar Coordinator from January 2015.

Gavin Metcalf (Ladame Group) had a cancer bioengineering article commissioned for the December issue of **The Biologist**.



IET Award Winnig students

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

CONTACT

Send news for the next issue to:

Dr Jenna Stevens-Smith

Outreach & Public Engagement Manager

