

The new academic year

[Dr Jenna Stevens-Smith](#): Admissions, Outreach and Engagement Manager



The 2017/18 academic year is off to a brilliant start, not only with the notable achievements of our staff and students (which you can read about in this edition of the Imperial Bioengineer), but also with the impressive amount of growth and changes that the Department has seen.

This academic year is a particularly special one with our first two cohorts joining us for the [MEng Molecular Bioengineering](#) and [iBSc Medical Sciences with Biomedical Engineering](#) programmes. These pioneering students are leading the way in these programmes, which expand the breadth and reach of the bioengineering training within the Department. With the number of programmes growing nationally (35 in the UK) and internationally (113 in the USA) it is an exciting time to be joining the discipline.

We are also delighted to welcome back new and returning students to the Department.

The new intake includes 175 undergraduates, 124 MScs, 41 MRes and 33 PhDs. This now means we have over 480 undergraduate students in the Department and our MEng UG intake makes us the fourth largest in the Faculty of Engineering.

Something we are particularly proud of in the Department is the diversity of our student body, this year's incoming UG cohort come from 33 different countries, with 43% female students overall across our UG programmes. Diversity of all forms is essential for innovation and creativity so we encourage all students to utilize the opportunities this environment provides.

Below are images of our Undergraduate year groups:



First year students at the Albert Memorial



Second year students outside the Royal Albert Hall



Third year students at the Queen's Tower



Fourth year students outside the Victoria & Albert Museum

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

- **Mr Alexander Foster**
RA with Professor Richard Kitney
- **Miss Alka Ishwarbhai**
RA with Professor Richard Kitney
- **Miss Amanda Wallace**
CBIS Centre Administrator
- **Dr Andrew Birch**
Visiting Researcher
- **Dr Deren Barsakcioglu**
RA with Professor Dario Farina
- **Dr Gerard Hernandez Mir**
RA with Dr James Choi
- **Mr Guillem Hurault**
RA with Dr Reiko Tanaka
- **Dr Lucy Foss**
Research Programmes Manager
- **Mr Matjaz Ogrinc**
RA with Professor Etienne Burdet
- **Miss Sharon Jewell**
Research Fellow
- **Mr Shlomi Haar**
RA with Dr Aldo Faisal
- **Miss Simos Koutsoftidis**
RA with Professor Manos Drakakis
- **Ms Zahra Abdullah**
Student Administrator

We will sadly be saying goodbye to a number of colleagues who are leaving. We wish them the best for the future:

- **Dr Anna Castronovo**
- **Dr Georgios Pothoulakis**
- **Dr Hari Arora**
- **Mr Javier Cudeiro**
- **Mr Mahendran Subramanian**
- **Dr Michael Mace**
- **Dr Paul Rinne**
- **Mr Vivek Senthivel**

We would also like to wish **Ms Samantha Kemp** (Student Administrator) and family the best of luck as she begins her maternity leave and to also congratulate **Dr James Choi** and his wife on the birth of their baby boy.

SPOTLIGHT: Imperial Neuroscience Research Day (INeRD) 2017



The very first Imperial Neuroscience Research Day (INeRD) took place on September 20th, at Hammersmith Campus. This event was organised by a joint initiative of early career neuroscientists from the Departments of Bioengineering and Medicine.

With an estimated 70 participants, the event succeeded in connecting Imperial's early career neuroscientists across faculties and campuses, as indicated by a feedback survey. Participants have reported that they connected to someone new, with whom they could potentially build a collaboration.

The event was kick-started by Professor Simone Di Giovanni and Dr. Ines Violante who introducing the initiative and its goals. Professor James Stirling then gave a speech which uplifted and motivated all of the researchers at the start of their career journey. Professor David Nutt followed with an equally inspiring and stimulating keynote lecture on why neuroscientists should also be revolutionaries. The scientific programme then continued with a panel discussion on the immersion of technologies in neuroscience and how the new generation of

neuroscientists can make use of these technologies to creatively advance the field. Prof. Sophie Scott, Professor Michael Häusser, Dr. Daniel Margulies and Dr. Christine Aicardi gave valuable input to the discussion moderated by Grace Lindsay.

The last part of INeRD was an interactive poster and demo session. Networking was facilitated by a pack of cards which was given to participants; each card captured the main details of one participant with picture, email, keywords and visual abstract. The networking tools were highly commended by many researchers and by the speakers as an excellent way to keep contact details and reminder of each other's research.

We would like to warmly thank all speakers and participants as we feel that everyone contributed to the success of the event. We are very happy that INeRD was very well received and we hope to establish this as a new platform for starting collaborations and creating links between campuses and faculties within which Imperial College neuroscientists are spread.

With warmest greetings,

The organisers

Cornelius, Ines, Katerina, Mark, Nienke and Yann



STAFF AND STUDENT SUCCESS

Congratulations are due to:

Christoforos Charalambous, Nikola Ciganovic, Robert Learney and Vikesh Chandria on passing their vivas and being awarded their PhDs.

Dr Colin Boyle, a PDRA in the Higgins Lab was awarded the Best Poster Award at the 19th Annual Meeting of the European Pressure Ulcer Advisory Panel, for his work on re-engineering skin to reduce the incidence of pressure ulcers on the residual limb of amputees

Madga Plotczyk, a PhD student in the Higgins lab has had her abstract accepted for an oral presentation at the World Congress for Hair Research in Japan in November 2017. She also received a travel scholarship from the EHRS to cover her attendance at the meeting, where she will talk on 'The role of hair follicles in dermal remodelling and scar reduction'.

Professor Richard Kitney, who took over as President of the City and Guilds College Association on the 2nd October 2017

Sabrina Smith, a 4th year undergraduate student who is one of the 10 students from across the UK to be awarded a £1000 final year grant. Sabrina used the money to fund her research placement at University of Pennsylvania's Rehabilitation Robotics Lab.

Dr Stefaan Verbruggen, a PDRA in the Nowlan Lab who was nominated for the individual rep award at the PDC Reps Award Dinner which was hosted by the Postdoc and Fellows Development Centre.



Teddy Mudge, an MRes student whose balloon catheter designed to treat aortic aneurysms was awarded first prize at the European Association for Cardio-Thoracic Surgery Techno-College Innovation

OUT AND ABOUT

Dr Aldo Faisal held the Keynote at the 16th Intelligence Data Analysis Conference (IDA 2017) on “Reverse engineering human decision making from high resolution analysis of behaviour”

Dr Aldo Faisal was General Chair of Neurotechnix 2017, the 5th international conference on Neurotechnology and its applications in Madeira, Portugal. He organised a special symposium on “Cognitive Neural Engineering” with six invited guest speakers to formulate a program for cognitive-level engineering of neurotechnology.

Dr Claire Higgins gave a talk on “In vitro and in silico models of skin function” at the Women in Science, Society and Skin Symposium in Cologne, Germany’.

Professor Dario Farina was invited to give a presentation entitled “The Bionic man” at New Scientist Live at the Excel Arena on 29th September.

Dr Emily Mayhew gave a talk at the Bethlem Museum of the Mind entitled “A Heavy Reckoning: War, Medicine and Survival in Afghanistan and Beyond”

Professor Etienne Burdet gave a presentation on “Haptic Communication” at the Italian Institute of Technology on the 10th October as a part of the “PACE Workshop on Robotics”.

Professor Etienne Burdet was invited to participate in a Symposium on “Life & Robotics: Understanding Humanity to Inspire Robots Designed to Assist Humans” organised by Nature-Springer in Heidelberg, Germany from the 23rd - 25th October.

Professor James Moore Jnr was selected to present at the Tech Transfer Innovation Challenge in Pheonix on Friday, October 13th

Professor Molly Stevens gave the London Materials Society (LMS) annual lecture on Thursday 2nd November 2017.

Professor Richard Kitney was invited by the President of Boston University (Professor Robert Brown) to give a keynote lecture on the occasion of the opening of a their new Life Science and Engineering Building on the 15th September.



SPOTLIGHT: Robotics Summer 2017 events

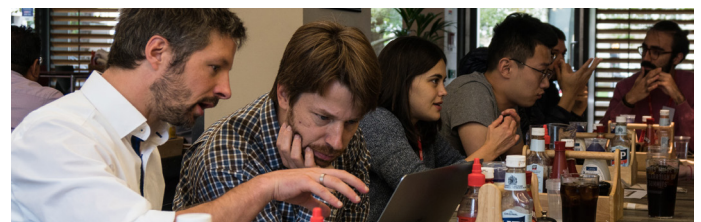
[Professor Etienne Burdet](#): [Professor of Human Robotics](#)



A very successful robotics-industry day was organised by the Imperial Robotics Forum on the 22nd September.

Different kinds of collaborations between the industry and Imperial College were showcased such as Cortexica, one of our department’s spin-off companies, founded by Dr Anil Bharath and Jeffrey Ng. Others in attendance were The Dyson Robotics lab of Professor Andrew Davison and Dr Stefan Leutenegger, the Human Robotics group of Professor Etienne Burdet, the Mechatronics in Medicine Lab of Professor Ferdinando a Baena and the Aerial Robotics Lab of Dr Mirko Kovak.

Demos included the EU-FP7 eNHANCE project in which Dr. Aldo Faisal is Principle Investigator, as well as the gripable.org company, which is a start-up from the Human Robotics Group. Over 60 participants from industry and academy participated networked at this event.



The [Human Robotics group](#) organised a summer school on Robotics-biology symbiosis which took place on the 19-21st September at [Imperial](#). Imperial College has a unique concentration of research at the interface of robotics and biology thus half of the speakers were from Imperial, complemented by top speakers from the UK and overseas.

In attendance were distinguished academics such as Professor Barbara Webb from the University of Edinburgh, who described how ants’ roads are formed; how in humans, the head stabilisation facilitates walking control and how this is useful to biped robots.

UPCOMING EVENTS

Departmental Seminars

22 Nov 2017, 15:00-16:00, RSM2.28
Dr David Hu, Georgia Institute of Technology:
Elephant trunks, cat tongues and the Ig Nobel Prize

06 Dec 2017, 15:00-16:00, RSM 2.28
Dr Heather Read, University of Connecticut:
Cortical hierarchy for spike timing based classification of sounds based on physical cues that underlie rhythm and timber perception

For more information, visit:

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

Departmental Events

The Centre for Blast Injury Studies' 2017 annual networking event

21 Nov 2017, 09:00-19:00, The Great Hall
CBIS' 2017 Networking and Research Update Event will cover topics from point-of-injury through to long-term outcomes of blast injury. For more information, please contact Melanie Albright.

Professor Manos Drakakis' Inaugural Lecture: "Non-linear low-power Microelectronics for and from Biology: A log story"

06 Dec 2017, 17:30-18:30, Lecture Theatre 164, Skempton Building

The lecture is free to attend and open to all, but registration via Eventbrite is required in advance

Joint MSKMEC Seminar Series

08 Dec 2017, 09:30-12:30 Room, White City Campus

The MSKMEC seminar series brings together researchers from across Imperial College London focussed on the discovery and application of new technologies to improve the understanding, diagnosis and treatment of musculoskeletal disorders. For more information, please contact Dr Phyllis Quinn.

External Events

16-17 Nov 2017 Imperial College London
BSSM Postgraduate Experimental Mechanics (PGEM) Conference

The BSSM PGEM Conference aims to bring together PhD/MPhil postgraduate students and early career researchers involved in the field of Engineering measurement and experimental techniques in stress, strain and vibration analysis. The conference provides an excellent opportunity to share and discuss their current research in a low pressure and relatively informal environment, learn about research projects at other institutions, network amongst like-minded people and make contacts for the future. For more information, please contact Dr Hari Arora.

04-06 Dec 2017 The Royal Society
From sender to receiver: physics and sensory ecology of hearing in insects and vertebrates

For more information, please contact Dr Andrei Kozlov

IN THE NEWS

Physics of Fluid's recent publication of a paper authored by collaborators within (Professor Colin Caro's) Caro Renal Group - Grechy et al (2017) Suppressing unsteady flow in arterio-venous fistulae, Physics of Fluid, 29 - had additional coverage in [The Times' newspaper](#) as well as the [Imperial College website](#).

The collaborative study on AVF, was carried out together with researchers from Hammersmith Hospital, Northwick Park Hospital, and St Mary's Hospital.

PUBLICATIONS

Be sure to check out the Department's recent publications, some of which are included here:

Dariusz Lachowski, Ernesto Cortes, Benjamin Robinson, Alistair Rice, Krista Rombouts and Armando E. Del Rio Hernandez, *FAK controls the mechanical activation of YAP, a transcriptional regulator required for durotaxis*, FASEB Journal (2017), [doi:10.1096/fj.201700721R](https://doi.org/10.1096/fj.201700721R)

Antonio Elia Forte, Octave Etard and Tobias Reichenbach, *The human auditory brainstem response to running speech reveals a subcortical mechanism for selective attention*, eLife (2017), [doi:10.7554/eLife.27203](https://doi.org/10.7554/eLife.27203)

Jacopo Bono & Claudia Clopath, *Modeling somatic and dendritic spike mediated plasticity at the single neuron and network level*, Nature Communications (2017), [doi:10.1038/s41467-017-00740-z](https://doi.org/10.1038/s41467-017-00740-z)

Luca A. Anecchino, Alexander R. Morris, Caroline S. Copeland, Oshorenaya E. Agabi, Paul Chadderton and Simon R. Schultz, *Robotic Automation of In Vivo Two-Photon Targeted Whole-Cell Patch-Clamp Electrophysiology*, Neuron (2017), doi.org/10.1016/j.neuron.2017.08.018

EXTERNAL GRANTS

Professor Rob Krams (Co-I), awarded a British Heart Foundation grant for the project *Biomechanical determinants of advanced coronary atherosclerotic plaque formation in transgenic hyperlipidaemic minipigs*, £636,391 (£318,195 to Bioeng)

Shlomi Haar, awarded the *Newton International Fellowship Scheme 2017* by The Royal Society. Supervised by Dr Aldo Faisal, £66,000.

Dr Aldo Faisal (PI), awarded a Duchenne Research Fund grant for the project *Ethomics Project: Combating or treating the Duchenne Muscular*, £187,325

Professor Etienne Burdet (project leader) with Gripable Ltd (Dr Michael Mace and Dr Paul Rinne) awarded an Innovate UK grant for the project *Gripable: A mobile therapy tool for hand and brain recovery*, £176,826

Professor Manos Drakakis (PI), with Dr Prapa Kanagaratnam and Dr Nick Linton (Co-Is), awarded an Imperial Confidence in Concept - Joint Translational Fund grant for the project *Design and Realisation of an Autonomic Stimulator for Rapid Identification of Ganglionated Plexus Sites in the Left Atrium*, £27,697.