

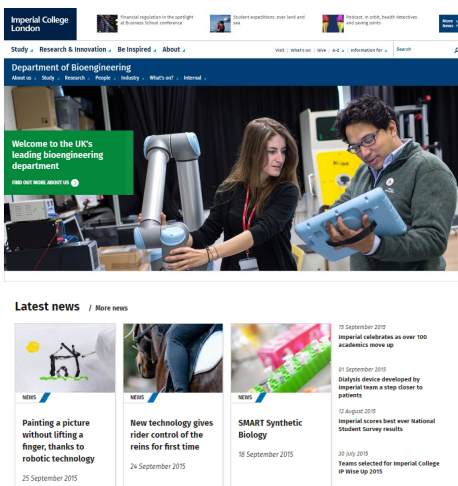


# Imperial Bioengineer

September 2015

## New year, new look by Dr Jenna Stevens-Smith, Outreach Manager

What better way to start the new academic year than with a refresh of the [Department's online presence](#). Officially launching on Monday 5 October in line with the start of term, the Department has a brand new website. Thanks to hard work from Laura McKay, Mariea Brady and Sean Conner the new website has taken shape over the last few months with a overhaul of the site map and as you will see a drastic new look, including a lot more images. The aim of the redesign was to provide an accurate insight to Department our dynamism and the exciting and inspiring place it is to work, study and do research. All comments and feedback is welcome and will be discussed in the newly created web committee whose membership includes: Graeme Rae, Laura McKay, Dr Jenna Stevens-Smith, Britta Ross, Halima Begum, Samantha Kemp, Mica Jones, Sean Conner and Liam Madden.



## WELCOME TO THE DEPARTMENT

Welcome to new starters

- **Dr Arash Arami** Research Associate with Etienne Burdet
- **Rallia Velliou** Research Assistant with Spyros Masouros
- **Niall Logan** Research Associate with Claire Higgins
- **Martina Ghetti** Visiting researcher from University of Bologna, Italy with Claire Higgins
- **Maddi O'Brien** Management Trainee

Honorary Senior Lecturers working with Rob Dickinson:

- **Ian Coles**
- **Dr Kuldip Nijran**
- **Rebecca Quest**

Sadly this month we are saying goodbye to a number of colleagues.

- **Ozan Cakir**
- **Simon Attwood**
- **Isobel Steer**
- **Dr Martina Wicklein**

Senior Teaching Fellow in Neuroscience at UCL

## NEW ACADEMIC HIRE



Congratulations to Dr Angela Kedgley who has been hired as a Lecturer in the Department, starting 1 October.

## GRANT SUCCESS

**Wellcome Trust Seed Award awarded to Dr Ben Almquist for Bioinspired nanotechnologies for spatiotemporal tissue engineering (£100,000)**

**BHF awarded to Professor Rob Krams for Disturbed Shear Stress/Strain (£299,991)**

## PUBLICATION SPOTLIGHT

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

Reiko J. Tanaka, Neville J. Boon, Katarina Vrcelj, Anita Nguyen, Carmelina Vinci, Darius Armstrong-James & Elaine Bignell *In silico modeling of spore inhalation reveals fungal persistence following low dose exposure* Scientific Reports 5, (September 2015) doi:10.1038/srep13958

Houssein, A. Papadimitriou, K.I. Drakakis, E.M. *A 1.26μW Cyto-mimetic IC Emulating Complex Nonlinear Mammalian Cell Cycle Dynamics: Synthesis, Simulation and Proof-of-Concept Measured Results* IEEE Transactions on Biomedical Circuits & Systems, 2015 doi:10.1109/TBCAS.2015.2450021

## Synthetic Biology Hub UPDATE

by Dr Helen Findon, Outreach & Communications Manager, CSynBI

Lots going on in the Synthetic Biology Hub at Imperial this month. September kicked-off with the Biochemical Society's Synthetic Biology UK 2015 conference in London. Under the themes of Making, Measuring, Thinking and Developing, the aim of the conference was to bring together the Synthetic Biology community in all forms in the UK to capitalise on synergies, enabling the exploration of entirely new approaches to the systematic and safe engineering of biology. With talks from Tom Ellis, Paul Freemont, Yuval Elani, James MacDonald and Lisa Goers plus several excellent posters, Imperial made a great contribution.

September also saw the launch of Lean LaunchPad for Synthetic Biology, organised and managed by SynbiCITE, the Hub's Innovation and Knowledge Centre. This is the second time this unique evidence based entrepreneurship programme has run at Imperial and has once again attracted a raft of keen start-ups eager to commercialise their technology and advance their businesses. Projects are all synthetic biology based and range from customisable flow-across membranes for precious metal drug catalyst removal, to heavily labeled full-length protein standards for mass spectrometry.



### Accelerating the commercialisation of synthetic biology

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

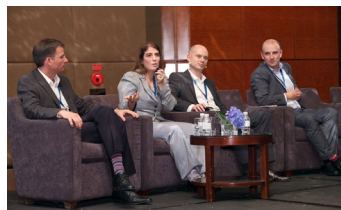
Discover more



SynbiCITE, in partnership with UK Trade & Investment (UKTI) and the UK BioIndustry Association (BIA) is delighted to announce that it will be undertaking focused business support for UK synthetic biology-using companies at [SynBioBeta San Francisco](#) from 3rd - 6th November 2015. Synbiobeta is the largest conference concentrating on synthetic biology in the biotechnology industry and SynbiCITE, in partnership with UKTI, is proud to be able to provide UK based businesses with an opportunity to showcase the best the country has to offer in synbio. [Dr John Collins](#), Commercial Director of SynbiCITE, can be contacted for further information.

On 30 September, [SynbiCITE launched its brand new website](#). The new website is fully responsive and interactive. It highlights everything SynbiCITE has to offer from education and training to business support, and serves as a one-stop-shop for information on events, news and opinion on synthetic biology in the UK and beyond.

## OUT AND ABOUT



On 12 September 200 alumni, students, parents, and friends met President Alice Gast and heard from synthetic biologists in Beijing. **Drs Tom Ellis**, John Heap, Karen Polizzi and **Guy-Bart Stan**, who had recently delivered presentations at the [World Economic Forum in Dalian](#), were introduced to the crowd by Professor Maggie Dallman (Associate Provost, Academic Partnerships). She described synthetic biology as a 'brave new world' that works to benefit society, and praised the academics for working at a frontier of science.

**Dr Jenna Stevens-Smith** and **Dr Andriy Kozlov** gave talks and ran a workshop with 60 primary school children at Bishop Gilpin School in Wimbledon on 30 September. This was the first of four visits to the school to inspire and educate the children about bioengineering and opportunities studying science and maths opens up.

PhD student **Wen Wu** (Drakakis Lab) presented at an IEEE EMBC conference in Milan a method suitable for differential voltage measurements between tissue samples his paper was entitled "A Method for Voltage Measurements of Cancerous vs. Non-Cancerous Omentum".

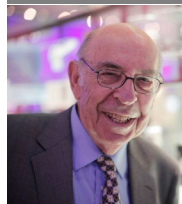
**Dr Zahra Mohri** had two A-level students working with her over the summer holiday, through the Nuffield scheme. The scheme enables students to gain research experience prior to applying to University.

**Dr Manos Drakakis** delivered the opening keynote lecture at the Integrative Biology conference in Valencia in August 2015. His keynote lecture was entitled: "Ultra Low Power Cytomimetic VLSI Circuits: Synthesis Method and Proof-of-Concept Results"

2015 MEng graduate **Henrik Hagemann** has won one of the 'Student Awards for Outstanding Achievement 2015'. These annual awards are for students who's outstanding achievement in any extramural activity brings credit to the College.

**Kai Arulkumaran**, PhD student in the BICV group, was invited to discuss the future of GPU hardware and software for deep learning at NVIDIA's Deep Learning Summit on 22nd September in Bonn, Germany.

## BIOENGINEERING LEGEND



The Department is delighted to wish **Professor Colin Caro** a happy 90th birthday! **Colin played a key role in the development of bioengineering at Imperial from the 1960s.** Staff are invited to attend a Departmental celebration of this special occasion on **4 November at 16:30 in 3.01C.**

In honour of Professor Caro's birthday and 50 years of membership of the American Physiological Society he has been invited to write a letter for *The Physiologist*.

## STAFF & STUDENT SUCCESS

**Charlie Gilbert** (1st year PhD student from Ellis lab) won the best poster and flash-talk prize at the first annual UK Synthetic Biology Conference. He won an Amazon voucher and 7400 bp of free synthetic DNA to his choice of design.

MEIbioeng15 in Leeds was attended by a number of members of the Department. It was a particularly successful meeting for PhD students **Vikesh (Nowlan)**, **Lilyana (Bull)** and **Aida (Kedgley & Bull)** and visiting student **Emmanuelle Flatt (Tweedy nee Siggers)** who all won poster prizes at the meeting.

**Konstantinos Petkos**, a former MRes member of the Drakakis lab, has won a competitive 4-year PhD studentship on neuroelectroceuticals sponsored by Medtronic under the aegis of the CDT Neurotechnology Center. Dr. Tim Denison (Technical Fellow-Medtronic) is the industrial lead of the research. Prof. Peter Brown (Director of the Medical Research Council Brain Network Dynamics-Oxford) is the clinical/physiology lead and Dr. Drakakis the academic lead of the research.

**Liam Madden**, Director of Course Operations in the Department is celebrating an impressive 30 years at Imperial. [You can read more about Liam in the latest edition of Reporter](#) (p14).

**Dr Angela Kedgley** featured in the [Arthritis Research UK 'ask an expert'](#).

## ALUMNI UPDATE

**Giovanni Biglino** one of the first intake of UG students in 2002 has been appointed as a Lecturer in Cardiovascular Bioinformatics and Medical Statistics at Bristol University. Following his undergraduate degree at Imperial he did his PhD at Brunel and has been working as a Research Associate and then NIHR Research Fellow at Great Ormond Street Hospital and University College London.

**A decade after our first graduating class we now have a new Alumni spotlight section on the website and we would love to hear what our alumni are now up to. Please get in contact with [Robert Ferguson](#).**

## UPCOMING EVENTS

### Departmental Seminars

Thursdays 12.00-13.00

**9 October 2015** 12:30-13:30 RSM2.28

**Professor Ole Paulsen from the Department of Physiology, Development and Neuroscience at Cambridge University**  
*Rules and roles of spike timing-dependent plasticity at hippocampal synapses*

**15 October 2015** 12:00-13:00 RSM2.28

**Dr Zhongzhao Teng from the Department of Radiology at Cambridge University**  
*Looking beyond luminal stenosis: Atherosclerosis Imaging and Biomechanical Analysis*

**22 October 2015** 12:00-13:00 RSM2.28

**Dr Roy Patterson from the Department of Physiology, Development and Neuroscience from University of Cambridge**  
*How the ear and the brain determine WHO is speaking as well as WHAT they are saying*

<http://www.imperial.ac.uk/bioengineering/whats-on/events/>

### Science Fridays are back in October...!!

### External Events & Conferences

**BMES Annual Conference inc. BME-IDEA 2015**

7-10 October

Tampa, Florida

**Biology Week 2015: Synthetic biology debate**

13 October

The Royal Institution of Great Britain, London

**Bridging the Gender Gap – How Men Can Be Allies for Women in STEM**

14 October

Digital Science Ada Lovelace Day event in London

## STUDENT'S CORNER



If you're interested in getting involved with a student society then [Freshers' Fair](#) is the place to explore what is on offer. Bioengineering students run the Imperial College Bioengineering Society (ICBE) and a number of our students are involved in the newly formed SynBIC and Future Frontiers.

**6 October 11:00-16:00**

ICBE will be running Bioengineering Mums and Dads on 5 October and be at Freshers' Fair on 6 October.

The Synthetic Biology Society was founded in 2014 by Imperial iGEM alumni and other students, with the aim to help develop the next generation of synthetic biologists and be the synbio social platform for students from Imperial and elsewhere.

## SynBIC



Future Frontiers Imperial is a brand new Student group at IC. Working in collaboration with other societies in UCL and KCL to make an impact on young people's lives, building a better future for them. The aims of Future Frontiers is to raise attainment and improve the career opportunities of young people from disadvantaged backgrounds by linking their aspirations to academic achievement through one-to-one career coaching.

## TUTORING: FROM STUDENT PERSPECTIVE

by Charles Dench, UG Biomedical Engineer

During my second year of study at Imperial I signed up to SchoolsPlus (SP), a voluntary organisation through which I was able to help children grasp things that had escaped them during class. I won't lie, at times teaching classes of children was challenging but all in all I would say it was a very rewarding experience. I came across [Tutopia](#) last year and am now tutoring & mentoring with them. As opposed to SP, at Tutopia I deal with one child at a time, which I find more rewarding as it allows me to really concentrate on their progress. Tutopia really focuses on getting to know their students and their families, which makes the experience really rewarding and far more exciting than typical student jobs such as bar work or working in a supermarket. Finding work in London that fits around Uni is difficult and generally isn't very financially rewarding. However, thanks to private tuition I am now able to fit a couple of hours in here and there which make a big difference to the budget. There are some really great opportunities to be encountered out there so get on it!

If you would like further information feel free to get in contact with [Charles](#).

## CONTACT

Send news for the next issue to:

**Dr Jenna Stevens-Smith**

Outreach & Public Engagement Manager