



DEPARTMENT OF BIOENGINEERING, IMPERIAL COLLEGE LONDON

Imperial Bioengineer

Autumn 2014

IN THIS ISSUE

attendees from the breadth of UK institutions and medtech companies which bodes well for the growing development of academic and industrial bioengineering in the UK.

The bioengineering revolution

by Jenna Stevens-Smith

I always thought that summer at a University was the quieter time of year, one academic year has concluded and the next is yet to begin. It is the time for holidays and for academics the opportunity to write more grants and present their research at conferences around the World. This is all true, apart from this summer was anything but quiet. The teaching office was busy concluding all of last year's examinations for undergraduates and timetabling for 2014/15. New cohort of students was selected following the July/August examination results. MSc and MRes students from 2013/14 delivered their final presentations and submitted their dissertations. A number of undergraduate students chose to spend their summer working on a UROP project to further build on their bioengineering skills developed through the academic year. The iGEM team has worked tirelessly all summer under the watchful eye of Ben Reeve developing their synthetic biology project which will be presented at the iGEM finals held at MIT in November.

We are delighted that a number of our undergraduate and postgraduate students will be staying on in the Department to pursue PhDs.

The summer has also been a successful one. With prizes won by Mario Giorgi (Nowlan lab) at British Societies for Matrix Biology and Developmental Biology meeting and at the World Congress of Biomechanics in Boston. Ekaterina Abramova (Faisal lab) won the 2nd prize for her talk at 2014 IEEE Cognitive

Robotics Meeting. Dr Michelle Rogers, postdoc in Boutelle Lab won the best poster prize at the International Society for Monitoring Molecules in Neuroscience in Los Angeles. There were promotions for three of our academics, Dr Guy-Bart Stan promoted to Reader and Dr Aldo Faisal and Dr Tom Ellis promoted to Senior Lecturer. Professor Rob Krams has accepted a position as associate editor for the royal society interface journal and has been asked to coordinate the first European vascular biology textbook to compete with the Braunwald textbook. It is endorsed by the European Society of Cardiology and the editor will be Oxford Editors. Dr Aldo Faisal has been elected to the Editorial board of "Nature Scientific Data", the new journal for data science by NPG. Professor Martyn Boutelle has been appointed President of International Society for Monitoring Molecules in Neuroscience.

The Department also hosted the MECbioeng14 conference in September, the organisation of this conference kept me very busy over the summer! The conference which covered the breadth of bioengineering was the largest ever bioengineering conference in the UK. There were 477 delegates, 21 parallel sessions 102 presentations, 160 posters, a conference dinner for 300 and plenary talks from Professor Paul Davies (cancer engineering) and Professor Dominique Durand (neural engineering). The conference was opened by our new President Professor Alice Gast and closed by Rt Hon George Freeman MP, the Minister for Life Sciences. There were



Invictus Champion

The Department are so proud of David Henson, who captained the GB team at the Invictus Games in September. David a Biomedical Engineering MSc student in won gold in both the events he took part in at the Games.

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Best of British

September saw the latest QS University World Rankings published and Imperial leapfrog past Oxford to join Cambridge as the top University in the UK.

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The Department was delighted to hear that Head of Department Professor Anthony had been elected as a Fellow of the Royal Academy of Engineering. Fellowship of the Royal Academy of Engineering is one of the top accolades an engineer can receive.

Anthony joins fellow Department of Bioengineering FEng Professor Richard Kitney and Professor Molly Stevens.

Alongside Professor Bull's recent election fellow Imperial Professor of Biomechanics Andrew Amis, Mechanical Engineering was elected as was fellow bioengineer Professor Patricia Connolly who is Professor of Bioengineering, Director of the Strathclyde Institute of Medical Devices, University of Strathclyde,

[Here is a full list of 2014 Fellowship.](#)



15th Conference of the International Society for Monitoring Molecules in Neuroscience

by Dr Agnes Leong

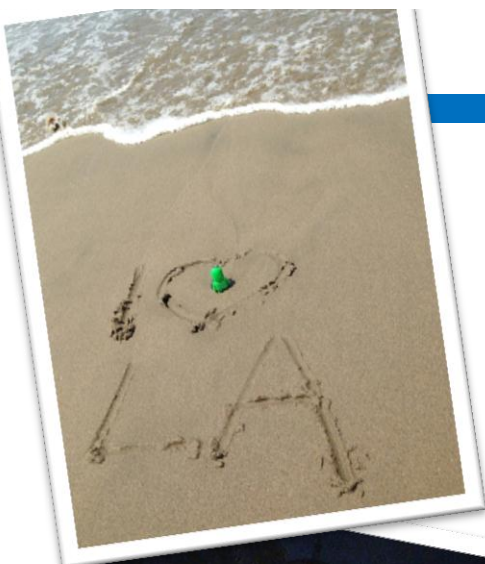
multi-modality monitoring of traumatic brain injury.

Earlier in August, the Boutelle lab travelled to Los Angeles to attend the 15th Conference of the International Society for Monitoring Molecules in Neuroscience. First established in Nottingham in the UK over 3 decades ago, the conference is now the major forum for progress and standardization of methodology for neurochemical monitoring in the living brain. Over the five days, over 200 delegates from all over the globe presented novel technologies for in vivo measurements, and discussed the roles of neurochemicals in brain functions and diseases.

Prof Martyn Boutelle chaired a symposium and gave a talk titled "Fast neurochemical monitoring of the human brain with on-line microdialysis". He described the

Dr Agnes Leong was invited to give a talk on "Faster online microdialysis potassium measurement" and presented strategies to preserve both the concentration and temporal characteristics in real-time chemical detection. Dr Michelle Rogers' poster titled "Microfluidic-based sensors for microdialysis monitoring of brain injury" won the best poster prize in Oscar style! Her poster described the development of biosensor technology and their application in clinical settings to further the understanding of brain injury and their metabolic consequences.

Despite the busy schedule, the little green man from Bioengineering had managed to relax in the beautiful sandy beach at Santa Monica!





Best of British

September saw the latest QS University World Rankings published and Imperial leapfrog past Oxford to join Cambridge as the top University in the UK. Imperial were second only to MIT, illustrating the value put on specialist science and engineering institutions.



Women in bioengineering lunch

The next women in bioengineering network lunch will be on Tuesday 30th September at 13.00 at Eastside. Please contact Dr Claudia Clopath before 23rd September if you are intending to attend.

FAST FACTS

41%

Percentage of female Biomedical Engineering undergraduates at Imperial College London.

18%

Percentage of female academics in Department of Bioengineering at Imperial College London.

Work-Life balance

by Jenna Stevens-Smith



The Department will be embarking on the Athena SWAN application process this Autumn for submission for an Athena SWAN Bronze Award in 2015. All members of the Department, students, academics, research and support staff will be encouraged to engage with the Athena SWAN process over the next few months, including through completion of Department survey and focus groups.

The Athena SWAN Charter recognises commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

The Equality Challenge Unit's (ECU's) Athena SWAN Charter has been developed to encourage and recognise commitment to combating this underrepresentation and advancing the careers of women in STEMM research and academia.

It covers:

- Women in academic roles
- Progression of students into academia
- Working environment for all staff

There are Athena SWAN awards for Institutions (Bronze or Silver), Departments (Bronze, Silver or Gold) and Research Institutes (Bronze or Silver).

Part of the Athena SWAN application process will involve writing an action plan which will be implemented over the three years of the award. The Bioengineering Athena SWAN team welcome suggestions from all staff and students they would like to have considered for inclusion.

Further information about Athena SWAN can be found on their website <http://www.ecu.ac.uk/equality-charter-marks/athena-swan/>

Imperial College London has a Silver Athena SWAN Institutional Award and the College offers a range of support to help women, and men, achieve a good work-life balance.

- For example, all female academics are encouraged to apply for an [Elsie Widdowson Fellowship](#) before taking maternity/adoption leave.
- For more information about the range of support the College offers, please explore the [Parents' Network website](#).
- Details of the College's family friend policies, including maternity leave, can be found on the [HR website](#)

The Bioengineering Athena SWAN team at present includes the following people:

- Professor Anthony Bull, Chair
- Dr Claudia Clopath, Deputy Chair
- Graeme Rae, Coordinator
- Dr Jenna Stevens-Smith, Coordinator
- Professor Molly Stevens
- Dr Chui Fan Lee
- Dr Guy-Bart Stan
- Dr Caroline Copeland
- Dr Martina Wicklein
- Samira Jamalian

Imperial College Representatives

- Dr Liz Elvidge, Post-Doctoral Development Centre
- Rob Bell, Imperial College Athena SWAN Coordinator

Only the

Convergence of

Devices and Drugs

October
Survey

November-
December
Focus Groups

January
Draft
Application

March
Review
Application

April
Submit

(MedTech and Pharma) can deliver the Healthcare Solutions of the Future

by Dr Jenna Stevens-Smith and Dr Harry Lambie

Can the (bio)pharmaceutical industry and its drug interventions alone deliver effective solutions to the most critical areas of global disease burden? Based on its recent track record and current drug pipeline the answer is resoundingly NO. The rate of progress in many diseases (e.g. osteoarthritis, Alzheimer's and cancer) has been dismal. In contrast, the revolutionary advances in technology arising from fields such as ICT, materials, advanced manufacturing, nanotechnology and consumer electronics have driven a renewed interest in the potential of MedTech, presenting a timely opportunity for an integrated approach that combines the principles of biomedicine and engineering to discover and develop the next generation of treatment solutions for patients.

There are already notable examples of convergence between Pharma and MedTech, which has led to treatments such as bioactive orthopaedic implants, drug-eluting stents and the artificial pancreas. However, these few examples are just the start of a new trend which has the potential to transform healthcare. Bold investments, such as the GSK bioelectronics initiative [1], provide a powerful statement of intent from the Pharma industry, whilst major MedTech companies, such as Medtronic, have continued their rapid progress from established devices, such as pacemakers, towards miniature, targeted, minimally-invasive devices for many applications. The burgeoning investment from both Pharma and MedTech in the field of regenerative medicine presents a parallel example with potential in many diseases.

Convergence of Pharma and MedTech, which are typified by a disparate mind-set and approach, necessitates a new generation of experts at the interface of the scientific disciplines which have traditionally underpinned the respective industries, biomedicine and engineering. Only with researchers conversant in the language of both bioscience and engineering will such convergence achieve its potential to deliver the next

generation of healthcare solutions. To address this need requires a committed investment from academia and industry, as well as a favourable funding and regulatory environment, as set out in a recent report from the Institution of Mechanical Engineers [2].

The UK's academic community is already leading the charge for a new generation of graduates skilled in both biomedicine and engineering. Bioengineering or Biomedical Engineering as an engineering discipline has seen unparalleled growth in recent years and there are now over 70 undergraduate courses across the UK at 27 institutions [3]. This growth is not so much a coincidence, but rather a necessity to equip our future healthcare innovators with the engineering skills and medical knowledge to develop future solutions.

Convergence between Pharma and MedTech must be underpinned by convergence between academic disciplines and between academia and industry, to maximise success and healthcare impact. For the first time, this year the academic centres funded by the Wellcome Trust & EPSRC Medical Engineering Initiative are expanding their annual meeting in collaboration with the Bioengineering Society, with an open invitation to all academic centres and interested healthcare companies, which will become the flagship national forum for this burgeoning field.

The MECbioeng14 conference, hosted at Imperial College London on 10-11 September 2014, was the UK's largest ever gathering of bioengineers, biomedical engineers and medical engineers from academia and industry.

[1] Drug discovery: A jump-start for electroceuticals Nature 496, 159–161 (11 April 2013) doi:10.1038/496159a
<http://www.nature.com/nature/journal/v496/n7444/full/496159a.html>

[2] Biomedical Engineering: Advancing UK Healthcare.
<http://www.imeche.org/docs/default-source/reports/biomedical-engineering-advancing-uk-healthcare.pdf?sfvrsn=0>

[3] UCAS Search tool
<http://search.ucas.com/search/providers?Vac=1&AvailableIn=2015&Query=biomedical%20engineering&Page=1&flt7=1&Feather=7&MaxResults=1000>

AWARD WINNING NEWS



Terrific teaching

Dr Darryl Overby and Martin Holloway were both recognized for their excellence in teaching this year through the President's Awards for Excellence in Teaching. Professor Peter Weinberg was recognized through the President's Awards for Excellence in Research Supervision.



Outstanding student

Alireza Tahmasebzadeh a Biomedical Engineering undergraduate has been awarded the Imperial College Medal for Outstanding Achievement. Amongst other achievements Alireza has co-founded Choose Blocks a wearable tech start-up specializing in modular smartwatch. <http://www.chooseblocks.com/>



GTA recognition

Congratulations to Yesna Yildiz from Dr Mengxing Tang's group who won GTA of the Year. This award is voted for by the students, therefore illustrating how much they appreciated the time and professionalism Yesna dedicated to her GTA work.

Accreditation Matters

By Liam Madden



George Freeman MP the minister for the Life Sciences gave the closing talk at the recent MECbioeng14 meeting held at Imperial. He astutely observed that in 20 to 30 years from now, we will reflect on the events of today in Biomedical engineering (BME) as the dawn of a new industrial revolution. We shall tell our grandchildren, you had to be there, to believe it!

The convergence of multiple mainstream engineering subjects in order to focus upon healthcare was endorsed earlier this year when 4 professional engineering institutions (PEI's) formally accredited our 3 taught degree programmes. We are the only named engineering degree to have 4 PEI's accrediting all our taught Biomedical Engineering programmes.

Not only does this unique achievement demonstrate the breadth and depth of our degree programmes but it acknowledges the maturity of the BME programme and acceptance within the engineering profession. Given that our first graduating class was in 2005 this represents impressive growth for a period of less than a decade. We might have been the first BME degree in the UK but it is very pleasing to be joined by kindred spirits in nearly thirty other UK universities.

The process to achieve accreditation involved initial and formal submissions, a 2 day visit by 16 accreditors which led to a detailed report. We then have to respond to issues identified in the report and finally after a few iterations of the issue/response cycle we converged to a state where each PEI were able to offer formal academic accreditation. The process took 20 months but was time well spent as you will discover when you graduate and seek employment in the engineering profession throughout the world.



When you apply for registration you will find the requirements for the CEng in the UK (regulated by the [Engineering Council](#)) are the same as those required in the EU (i.e. Eur. Ing.) or anywhere else in the world (Int. P.E.). These requirements are based on the Washington, Sydney and Dublin Accords. Therefore registration as a professional engineer is a passport that will enable you to work anywhere in the world. In some countries a professional qualification is a mandatory requirement, in others it is desirable and will enhance your employability prospects. In the UK the title Chartered Engineer is protected by civil law.

Currently, all your energies are focussed on your degree studies. However, when you graduate and enter the profession you will become aware that are two steps to becoming a professional engineer. The first is to prove that you have an accredited degree for the PEI that you eventually apply too. The second is to prove that you have achieved certain learning outcomes since graduation. All PEI's provide advice and mentoring about how to achieve the latter. To confirm that you have an accredited degree, you should check that your year of admission as a first year is within the year details for the specific PEI in Table 1 below. The table is quite detailed because we increased the number of accrediting PEI's from 2 to 4 and there is a distinction between full and partial academic accreditation.

Note partial CEng accreditation equates to full IEng accreditation.

The new PEI's backdated their accreditation such that all years up to an including the final years students at the time of accreditation were included.

	BEng	MEng
<i>IEng</i>	<i>Full</i>	<i>Full</i>
CEng	Partial	Full
IPEM	2013-18	2013-18
IET	2002-18	2002-18
IMechE	2005-19	2005-19
IOM3	2010-17	2010-17

Table 1

The MEng degree provides full academic accreditation. The exception is for the year abroad pathway which would require accreditation of each of our overseas partner institutions, which is not practical. You also need to achieve at least a MEng second class honours degree since professional registration is considered to be gold standard for the profession.

The recent accreditation process also included the MSc programme for the first time. Each stream is accredited by 2 or 3 PEI's c.f. table 2.

MSc Biomaterials	IPEM 2012-18 IMechE 2013-19 IOM3 2013-17
MSc Biomechanics	IPEM 2012-18 IMechE 2013-19
MSc Medical Physics	IPEM 2012-18 IET 2012-18 IMechE 2013-19
MSc Neurotechnology	IPEM 2012-18 IET 2012-18 IMechE 2013-19

Table 2

An accredited BEng and an accredited MSc equates to be the same as a MEng in terms of learning outcomes needed to meet academic accreditation. Many of our MSc students will have an accredited first degree from their first degree therefore you will achieve full academic accreditation in combination with our MSc.

Even if you only have one accredited degree (i.e. BEng or MSc) or you are doing the MEng year aboard or you have a MEng third class honours then you will have satisfied many of the learning outcomes. You should still apply for professional registration. You will be advised by any PEI about how you can address the shortfall in learning outcomes. Typically this means offering more years of work experience.

Accreditation is renewed every 5 years, so we are already 2 years in to the next cycle and soon we will be preparing the next initial submission! I am planning to include a 5th PEI to our set of accreditors. I will not name the PEI but there is a clue below. If successful then the back dating means that this year's first year will be included by the new PEI.

I would strongly encourage all new first year undergraduates and MSc students to attend the fresher's week presentations given by IPEM, IMechE and the IET. They will each explain what they have to offer you, whilst as a student and then as a professional engineer throughout your working life. One valuable contribution is in the form of financial awards. Each year many of our new and returning students have been awarded IET awards and scholarships.

Please feel free to come and talk to me about accreditation, anytime.

Liam Madden MIET CEng FBCS CITP

Liam is the Director of Course Operations in the Department of Bioengineering and



A Lab in the Shade of the Andes

By Bianca de Blasi

In August I was thrown into a new reality surrounded by the Andes and smelling of sopaipillas (fried bread). I decided to join the laboratory directed by [Professor Andrés Couve in the Universidad de Chile \(Santiago\)](#) as I was thrilled by the idea of working on a neuroscience project in a completely different environment, such a distance from Europe. Moreover, I was fascinated by the Chile and I wanted to explore it.

My project consisted of investigating the presence of mRNA coding for beta2 subunit of voltage gated sodium channels in axons. The purpose was to demonstrate that these proteins might be locally produced in axons, which would provide a faster neural response than their production in the soma and later transport through the axon. The overall research would increase the current knowledge about local protein trafficking in axons which, in turn, could help to understand synaptic pathologies better. Besides my project, I was invited to attend seminars and to take part in other researches as a volunteer (such as the testing of eye tracking devices). Between a RNA extraction and a PCR reaction, I also started learning about Chile, thanks to the people in the laboratory who were

guiding me through the search for lab equipment as well as the discovery of Chilean food and traditions. Following their suggestions I explored Santiago from the Mercado Central to the Cerro Saint Cristobal, including the delicious sandwiches with avocado and meat and a glass of pisco sour. But my trip was not limited to Santiago. In fact, I dedicated my weekends to travelling both to the North and the South. Squashed between the Ocean and the Andes and extremely extended in length, Chile offers a huge variety of landscapes and traditions. So, I found myself walking between geysers and upland lakes (at 4000m) during my trip in the Atacama Desert, in the North. On the other hand, there were villages built on palafittes, small wooden churches and pouring rain to welcome me in the Island of Chiloé, in the South. I was stunned by the poverty and simplicity I found in most of the towns outside of Santiago and by the impact the dramatic events of the past still have on everyday life. But I was also fascinated by the Chilean traditions made of unbelievable food (such as curanto: I will not try to translate it, just check it out!) and ancient legends.

At the end of the trip, I was rewarded by getting positive results in my project: after a month of experiments I was able to detect mRNA of the beta2 subunit in sciatic nerve. But I was also feeling changed and enriched thanks to the people I met, to the sites I explored and to Neruda's poems. Surprisingly I did not regret having exchanged a month of my summer for the austral winter!



Image of Santiago, Chile

Bianca de Blasi is a fourth year Biomedical Engineering student in the Department of Bioengineering at Imperial College London.

Invictus Inspiration

From 10-14 September, David Henson was the captain of the GB Armed Forces Team at the [Invictus Games](#).

Dave, who is a Biomedical Engineering MSc student in the Department, has balanced training for the Games alongside his studies all year. The hard work paid off with a comfortable win in the 200m followed by a second Gold in the Sitting Volleyball.

You cannot fail to be inspired when you meet Dave, for someone who suffered such a severe injury at the hand of an IED in Afghanistan; he exudes positivity and the will to make a difference in whatever way he can. He has lent this will to make an impact by doing a number of interviews for newspapers including the Telegraph and the Times and acting as the Veterans Representative for the Centre for Blast Injury Studies, alongside a number of charitable commitments. He was featured in the Invictus Games documentary which went out just before his 200m final, adding to the pressure he was under to perform.

But what makes Dave such a popular focus for the media is how down to earth he is. Such as his engineering approach to fixing his running blades, which he kept breaking due to the amount of torque he was putting on them when running 200m. After breaking 6 brackets he decided, with his brother (also an engineer) to solve the problem himself by doing the stress analysis and designing a new bracket (which is yet to break).

Dave is a strong advocate for the benefits that sport brings to servicemen and women injured in conflict. In addition to the focus and routine it provides the challenge and achievement that comes with it is incredibly rewarding and a key part of rehabilitation. There is a major role bioengineering can play in enabling rehabilitation through sport. It has been a major focus of the Rio Tinto Sports Innovation Challenge project over the last three years, and this year the Department will also be embarking on [Cybathlon](#) a project that utilises our expertise in robotics as well as biomechanics.

Whatever the future holds for David Henson the Department are incredibly proud of him and all he has already achieved.



GB Captain David Henson, winning the 200m final at the Invictus Games by 9 seconds!

DEPARTMENT NEWS



Bull briefs on IMechE report

Professor Anthony Bull FREng, was one of the lead authors behind the IMechE's recent report titled [Biomedical Engineering: Advancing UK Healthcare](#). Included in the recommendations put forward in the report were that each NHS trust should have a designated biomedical engineer and that a single, dedicated funding programme for biomedical engineering research should be established in UK Research Councils.



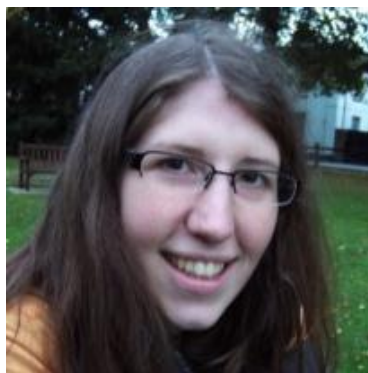
Professor Colin Caro

Professor Colin Caro has had a busy few months with an interview for Lord Professor Robert Winston's Twig films for primary school children, a podium presentation at the World Congress of Biomechanics in Boston, co-Chairing a session at the Heart Valve Biology and Tissue Engineering meeting at the Royal Society in London, on 10th September followed by an in conversation with interview with Professor James E Moore Jr. at the MECbioeng14 conference hosted at Imperial.

[Vervan](#), one of Professor Caro's spinout companies has announced recent results that confirm that the BioMimics 3D provides a significant improvement in long-term patency compared to a straight nitinol control stent in patients undergoing femoropopliteal artery intervention.

Travelling success

Mohammad Jafarnejad and Samira Jamalian (Moore Group) were both successful in receiving travel fellowships to 7th World Congress of Biomechanics. The Congress in Boston was attended by many members of the Department, highlighting our strength and depth in biomechanics research.



Congrats to Claire

Congratulations to Dr Claire Donoghue (Bull Group) who won the John Paul Prize at the Royal Academy of Engineering Young Researchers' Futures Meeting in Leeds in September.

Student success

Andreas Procopiou (Drakakis Group) earned a Student Award at the 8th International Symposium On Objective Measures in Auditory Implants, Toronto, Canada. Andreas' paper is about a new computational tool termed DICOSTET (digital cochlea stimulation and evaluation tool) which we have been dreaming about the last 3 years and which has resulted in Andreas distilling over 1000 papers! Andreas is at the last stages of delivering the fully working DICOSTET tool while he writes-up his Thesis. DICOSTET, as planned, can be viewed as a tool for surgeons, engineers and neuroscientists alike and our intention is for it to be/become an open platform.

From the New Year Andreas will be joining a Belgian auditory experiments Group aiming to gain extra skills and come back to Bioengineering by means of specific ERC instruments.



Successful summer for Mario

Mario Giorgi, PhD student in Dr Niamh Nowlan's group won best presentation prize at the first joint meeting of the British Societies for Matrix Biology and Developmental Biology (BSMB-BSDB) held in Norwich, 1st-3rd September 2014. Mario's talk was entitled "The role of fetal movement in prenatal hip joint morphogenesis" and his award was sponsored by Orthopaedic Research UK (ORUK). Mario also won European Society of Biomechanics Student Award at the World Congress of Biomechanics in

Boston. Mario's research presented at WCB2014 contributes to understanding the mechanical contribution needed for development of a functioning hip joint. His aim is to understand the reason why babies kick during fetal growth and the importance of these movements for joint development. His research showed that with reduced movement the congruity of the joint is reduced, making it less stable and increasing the risk of subluxation or dislocation of the hip.



PNAS Publication

Congratulations to Dr Darryl Overby who has a paper out in PNAS this month titled ["Altered mechanobiology of Schlemm's canal endothelial cells in glaucoma"](#) there are also a number of colleagues from the Department who are co-authors on the paper.

Department Seminars



[For up to date seminar information please check the seminar page on the Department website.](#)

8th October 2-3PM RSM 2.28; Speaker: Bauer Sumpio from Yale; Host: Robert Krams

29th October 2-3PM RSM 2.28; Speaker: Professor Ian Wong; Host: Ben Almquist

30th October 1-2PM in RSM 2.28; Speaker: Cliff Bagnwynne from Princeton; Host: Chiu Fan Lee

13th November 1-2PM RSM 2.28; Speaker: Guillermo J. Tearney, MD;

1st December 1-2PM; RSM 2.28; Speaker: Prof Marc McKee from McGill University



Welcome to the Department!

Over the last few months we have been joined by three new Lecturers. Dr Claire Higgins started in April and Dr Ben Almquist and Dr Andrei Kozlov who have started this month. They have diverse fields of research including skin, regenerative medicine, bionanotechnology and neural mechanisms.

We have also been joined by Melanie Albright who is the new Department Secretary as Laura McKay is now on secondment in Civil Engineering.

Dr Anna Kubik also recently joined us as the Postgraduate Administrator and is based in the teaching office. She replaces Dr Kate Hobson who has taken on the new role of administrator for the Neurotechnology CDT.

Sad farewells

Sadly at the end of the month we will be saying goodbye to Dominic Smith, Amanda Wilson, Mariea Brady and Dr Massimo Marenzana. The Department wishes them all the best in the future!

Deputy Head of Department

Congratulations to Professor Martyn Boutelle who has been appointed Deputy Head of Department.

Bioengineering Newsletter

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