



£20M AWARD FOR BIOMEDICAL ENGINEERING FACILITY

By Kemi Afolaju. Adapted from: "London to become 'global epicentre' of biomedical engineering with GBP 20m award" by Deborah Evanson on Imperial News website.

The new Imperial College biomedical engineering facility which, as previously reported, has already received £35 million of funding from UK RPIF has now also received £20 million of government funding.

The investment by the Higher Education Funding Council for England (HEFCE) through the UK Research Partnership Investment Fund will support the development of the research hub at Imperial College's new White City Campus. The facility will bring together over 500 engineers, scientists and clinicians, collaborating to develop solutions to some of the world's most pressing biomedical and healthcare problems.

Its research focuses include new technologies for the early detection, monitoring and treatment of cancers; the development of minimally invasive implants, regenerative medicine and technology to aid recovery from nervous system injuries.

The building, due for completion in 2019, will house life-changing research into new and affordable medical technology, helping

people affected by a diverse range of medical conditions.

Head of Department, Professor Anthony Bull said: "This funding will allow us to take a great leap forward by bringing together a critical mass of engineers, scientists, and clinicians on an unprecedented scale. The opportunities this presents are tremendous."



Michael Uren Biomedical Engineering Research Hub

At its White City Campus, Imperial is working to develop an international innovation district, providing space for the College to adapt to the changing needs of its researchers, students, partners and local communities, as well as an environment to enable collaboration, co-location and partnership with business, academia, and non-profit, healthcare and government institutions.

IN THE NEWS

Professor Dario Farina: Chair in Neurorehabilitation Engineering published an exciting paper in journal *Nature Biomedical Engineering*, 6 February 2017, entitled



Man/Machine interface based on the discharge timings of spinal motor neurons after targeted muscle reinnervation. The paper received quite a media storm with media coverage including The Times, New Scientist, the Daily Mail, The Engineer and BBC Radio Five Live plus 18 trade and specialist publications.

The news story about the research is on Imperial's website here: http://www3.imperial.ac.uk/newsandeventspggrp/imperialcollege/newssummary/news_6-2-2017-13-48-49

<http://www.nature.com/articles/s41551-016-0025>

Fourth year biomedical engineering student Mohima Ahmed and the voluntary work she does as part of *Inventors Club Whitechapel* has been featured on the *Huffington Post*.



The *Inventors Club* is made up of parents, residents and technology devotees who have made it their aim to introduce coding, data networking, hardware and applications design to young children in Whitechapel.

In the article, Mohima states that she does her best to speak to and understand the thoughts and ideas of the children at the club in order to support their budding ideas and interests.

This year, the *Inventor's Club* are pushing to hold the first ever tech fair in Tower Hamlets where students can showcase their projects to industry professionals and local tech companies in order to receive advice, support and placement opportunities.

Imperial Bioengineer

Jan-Feb 2017

WELCOME TO THE DEPARTMENT

Welcome to new starters

- **Sabine Dziesmian**, RA with Dr Aldo Faisal
- **Cristian Parisi**, RA with Dr Niamh Nowlan
- **Maria-Roza Nikolopoulou**, Research Technician with Prof Rob Krams
- **Shabnam Kadir**, RA with Dr Tobias Reichenbach
- **Caroline Golden**, RA with Dr Paul Chadderton Bioengineering Laboratory Technician
- **Katharina Wilmes**, RA working with Claudia Clopath
- **Gerolamo Carboni**, RA working with Etienne Burdet
- **Georgios Pothoulakis**, RA working with Tom Ellis

We will sadly be saying goodbye to Jason Chang, Shou-Han Zhou, Maureen Driessen, Sarah Guy and Atsushi Takagi and we wish them all of the best in their new ventures.

We will also be saying good bye to Liam Madden, Director of Course Operations who will be going into partial retirement after 31 years at Imperial. We would like to thank Liam for all of his dedication, years of hard work and for being such a pleasure to work with. We wish him all the best for the future.

EVENTS

Departmental Seminars: Thursdays 12.00-13.00

16 Mar 2017 12:00 - 13:00 RSM 2.28

Biophysics of Growth and Shape Control in Bacteria

Dr Tristan Ursell, Assistant Professor of Physics, Institute of Molecular Biology, University of Oregon, USA

23 Mar 2017 12:00 - 13:00 RSM 2.28

Studying the Neural basis of Complex Spatial and Acoustic Behaviours – in Freely Behaving and Flying Bats

Dr Michael Yartsev, Department of Bioengineering, UC Berkeley

30 Mar 2017 12:00 - 13:00 RSM 2.28

Organizing principles in developing networks and sensory populations

Dr Julijana Gjorgjieva, Max Planck Institute for Brain Research, Germany

The Bioengineering Lecture

22 Jun 2017 Room & Time TBC

The Power of Miniaturization in Medicine

Professor Sangeeta Bhatia, Director, Laboratory for Multiscale Regenerative Technologies & Professor, MIT, Boston, USA

STAFF & STUDENT SUCCESS

Congratulations are due to:

- Dr Rylie Green who has been awarded a Suffrage Science award for women in engineering and physical sciences.
- Naomi Rosenberg, who passed her PhD viva in March 2017. Naomi will be start a new role with *Corin*, an orthopaedic company in March.
- Dr Stefaan Verbruggen who has been awarded a Marie Curie Global Fellowship to study Bone Cancer Mechanobiology at Columbia University, New York and Queen Mary University of London.
- Miroslav Gasperek, undergraduate Biomedical Engineering student has made a submission to the *Engineering Leaders Scholarships* scheme and has been invited to attend the Selection Event.

OUT AND ABOUT

Dr Armando del Río Hernández was keynote speaker and discussion leader in the Gordon Research Conference - Physical Science of Cancer in Texas, US on February 4 to 10. The CMB Lab was represented also by **Dr Ernesto Cortes** and **Dr Antonios Chronopoulos**.

Dr Ian Radcliffe gave a talk on the Sports Innovation Challenge at UCL to Malaysian and Singaporean medical students at the MMI x SMS UK Conference

Dr Ian Radcliffe, **Dr Hippolite Amadi** and **Dr Cheryl Battersby** were in Myanmar from the 19th-27th February as part of a group visiting a number of Neonatal Intensive Care Units around the country. The group from Imperial College and the Royal College of Paediatrics and Child Health are working on a project funded by the Global Challenges Research Fund to investigate the application of frugal technology within neonatal care in developing countries. Working with representatives from the Myanmar Paediatric Society the team will spend one week in the Mandalay and Yangon regions of Myanmar.

Dr Michael Mace and **Dr Paul Rinne** are currently participating in a 100 day accelerator in Dubai to develop the business case behind *'gripAble'*

Dr Daniel Nolte and his family on the birth of his daughter Elena Katharina.

SPOTLIGHT: EDCC

The Equality and Departmental Culture Committee (EDCC) acts as a forum for discussion of all matters relating to equality, diversity and departmental culture affecting the Department of Bioengineering. The Committee specifically acts as the self-assessment team for Athena Swan. The committee meet termly and have representation from all aspects of the department.

If you have any queries, issues/topics pertaining to equality, diversity and departmental culture that you feel are affecting the department, please feel free to contact one of the departmental representatives. Alternatively you can leave a comment in the comment box (allocated outside the Teaching office, RSM 321c) All issues raised will remain anonymous."

The following members are;

Academic Reps:
Claudia Clopath (Chair)
Guy-Bart Stan

Support Staff Reps:
Jenna Stevens-Smith
Paschal Egan
Nazib Ahmed (Committee Secretary)
Mica Jones (Former Committee secretary)

Postdoc reps:
Stefaan Verbruggen
Yann Sweeney

PhD student reps:
Christian Klemt
Devi Bridglal
Marta Dazzi

Department UG reps:
Navidu Samarakkodi
Kate Hobbs

Postdoc Development Centre Representative:
Dan Brooke

EVENTS

15 Mar 17 12:30-15:00 RSM 3.01C,D
MedTech links Cardiovascular Innovations Event

21 Mar 17 14:00-15:00 RSM 3.03
Flow Cytometry Seminar led by Jane Srivastava
Register through [Bioengineering Technical Academy](#)

10 Apr 17 14:00-19:00 RSM.147
Musculoskeletal Medical Engineering Centre Seminar - Joint Seminar Series 2017
Keynote Speakers:
-Dr David Deehan
-Dr Eli Zelzer

PUBLICATIONS

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

Mara A Pop & Benjamin D Almquist, *Biomaterials: A potential pathway to healing chronic wounds?*, *Experimental Dermatology* (2017), [doi: 10.1111/exd.13290](#)

N Newell, JP Little, A. Christou, MA Adams, SD Masouros, *Biomechanics of the human intervertebral disc: A review of testing techniques and results*, *Journal of the Mechanical Behaviour of Biomedical Materials* (2017), [doi.org/10.1016/j.jmbbm.2017.01.037](#)

Michael Mace, Paul Rinne, Jean-Luc Liardon, Catherine Uhomobhi, Paul Bentley, Etienne Burdet, *Elasticity improves handgrip performance and user experience during visuomotor control*, *Royal Society Open Science* (2017), [doi: 10.1098/rsos.160961](#)

Rona Chandrawati, Jason Y. H. Chang, Ester Reina-Torres, Coline Jumeaux, Joseph M. Sherwood, W. Daniel Stamer, Alexander N. Zelikin, Darryl R. Overby, and Molly M. Stevens, *Localized and Controlled Delivery of Nitric Oxide to the Conventional Outflow Pathway via Enzyme Biocatalysis: Toward Therapy for Glaucoma*, *Advanced Materials* (2017), [doi: 10.1002/adma.201604932](#)

C. Kallepitis, M. S. Bergholt, M. M. Mazo, V. Leonardo, S. C. Skaalure, S. A. Maynard, M. M. Stevens. "Quantitative volumetric Raman imaging of three dimensional cell cultures." *Nature Communications*. 2017. Accepted.

Atsushi Takagi, Gowrishankar Ganesh, Toshinori Yoshioka, Mitsuo Kawato & Etienne Burdet, *Physically interacting individuals estimate the partner's goal to enhance their movements*, *Nature Human Behaviour* (2017), [doi:10.1038/s41562-017-0054](#)

GRANTS

Dr Ben Almquist awarded a Diabetes Research & Wellness Foundation grant for his project entitled "Reprogramming Diabetic Foot Ulcers to Heal". (£20,000)

Dr Mengxing Tang awarded a British Heart Foundation grant for her project called "Quantitative and non-invasive 3D flow and vascular wall shear stress mapping using ultrafast contrast-enhanced ultrasound and particle image velocimetry". (£179,389)

Dr Jennifer Tweedy awarded for a UK Fluids Network Special Interest Group on "Fluid Mechanics of the Eye. (£12,330)

Professor Holger Krap awarded an EPSRC grant for his project entitled "Bio-inspired Pathways to Application Technologies". (£23,771)

Dr Reiko Tanaka awarded through an internal scheme for her participation in Masahiro Ono's/ Murray Selkirk's BBSRC Grand Challenges: Development of vaccine for gastrointestinal nematode parasite of livestock". (£866)

Professor Martyn Boutelle awarded an IC Innovations grant for his project called "Wearable TBI monitor-Spike Sight". (£24,000)

Dr Aldo A Faisal awarded a Nokia Technologies Oy grant for his project called "Data-Driven Sleep Neurotechnology for Nokia". (£107,318)

Dr Claire Higgins & Dr Andrei Kozlov awarded an EPSRC Industrial Case Studentship in collaboration with Procter & Gamble. This will fund a PhD student to research the 'Neurobiology of the Hair Follicle'. (£111,096)