



Imperial Bioengineer

April 2016

MEET THE NEW RESEARCH FELLOW



Dr Christina Warboys is a BHF Intermediate Basic Science Research Fellow in the Department of Bioengineering

Find out more about Dr Warboys and her fellowship in this article

Tell me about your Fellowship?

It is an Intermediate Basic Science Research Fellowship awarded by the British Heart Foundation. The BHF award these fellowships to successful and ambitious postdoctoral researchers to establish an independent research career and 'provide career opportunities for talented individuals hoping to become research leaders'

The duration of the Fellowship is 4 years and the total award is £427,760 which covers my salary, salary for a research technician (for 2 yrs) and research costs (consumables etc).

What is your academic background?

My background is in cell signalling and vascular physiology; developed an interest in mechanosignalling and the development of endothelial dysfunction and atherosclerosis throughout my research career.

- PhD in Cardiovascular Division at King's College London (with Dr Paul Fraser, funded by MRC)

Postdoc positions:

- Dept of Bioengineering (with Peter Weinberg, funded by BBSRC) while here I helped set up the Departmental tissue culture and confocal facilities
- NHLI at Imperial (BHF funded)
- Cardiovascular Division, King's College London (BHF funded)

Also worked as a Teaching Fellow in Physiology before my research fellowship.

What is your area of research interest?

My fellowship will investigate the *molecular mechanisms by which endothelial cells sense and respond to disturbed/multidirectional flow*; this has recently been identified as an important factor in the development of atherosclerosis and cardiovascular disease.

My research programme will focus on the role of a signalling molecule called β -catenin which has been linked with several potential mechanosensors and is important in mechanotransduction in bone.

This research will help us understand the cellular mechanisms by which atherosclerosis develops with the vision of one day identifying novel molecular targets for the prevention or reduction of cardiovascular disease.

Are there any opportunities for students to work with you?

Any students interested in undertaking research projects should get in touch directly with me by e-mail.

TECHNICAL UPDATE

Marta Garcia Bellmunt is now on Maternity leave and returning at the start of 2017. We wish her all the best for her new adventure into motherhood.

While Marta is on maternity leave, Joel Eustaquio has joined us from the Institute of Reproductive and Developmental Biology, Department of Surgery & Cancer, Hammersmith Campus. Joel started on the 26 April and will cover Marta's role of management of the departmental Histology and Genomics laboratories, support for our central facilities including the store room, Utility/autoclave room, running of our lab coat allocation and laundry systems as well as supporting our rapid prototyping services including the Objet 30 Pro and the Bioplotter. Joel is based at Marta's desk in RSM 3.18 and available on her number: 07872 850 260.

WELCOME TO THE DEPARTMENT

Welcome to new starters

- **Grigorios Grigoriadis**
Research Assistant working with Spyros Masouros
- **Joel Eustaquio**
Laboratory Technician (Maternity Cover for Marta)
- **Francisco Hernandez Heras**
Research Assistant working with Holger Krapp
- **Grigoris Tsolkas**
Research Technician working with Rob Krams

This month sadly two colleagues are leaving, we wish them all the best in their new roles:

- **Joseph Sollini**
- **Dimitrios Athanasiou**

Marta Garcia Bellmunt (maternity leave)

GRANT SUCCESS

Wellcome Investigator Award for **Claudia Clopath** for a project on *Memories across different time scales* (£1 million)

Imperial Confidence in Concept grant awarded to **Angela Kedgley** with Co-Is: Donna Kennedy (Imperial), Tonia Vincent (Kennedy Institute), and Fiona Watt (Kennedy Institute) for a project on *An adaptive orthosis for hand osteoarthritis* (£42,429)

EPSRC grant awarded to **Tom Ellis** for a project on *Grow-Your-Own Composites* (£542,617)

Imperial Confidence in Concept grant awarded to **Armando del Rio Hernandez** for a project on *ExoSonic: A novel microfluidic chip for non-invasive, early detection of pancreatic cancer via isolation and detection of exosomal biomarker glypican-1* (£78,322)

Wellcome Seed Award awarded to **Amanda Foust** for her project titled *Holographic Induction of Neural Circuit Plasticity* (£99,979.54)

Imperial Confidence in Concept grant awarded to **Peter Weinberg (PI)** and **Mengxing Tang** Development and testing of novel ultrasound methods for determining heart failure, arterial stiffening and endothelial dysfunction from arterial wave phenomena (£83,481)

The Rosetrees Trust awarded to **Ben Almquist** for a project entitled *Reprogramming Diabetic Foot Ulcers to Heal* (£25,000)

STATESIDE INSIGHT TO HEALTH & SAFETY

This month Lab Manager Ken Keating was invited to attend the Safety By Design workshop in Maryland. The workshop was organised by UCLA and was in collaboration with a number of the major universities in the US plus their National Institute of Health (NIH) and Occupational Safety and Health Administration (OSHA) and was held in the NIH. Participants and speakers included academics, university safety professionals, Industry, Government and National standards agencies from the USA- Imperial and Delft universities were also invited this time. Attending were various Heads of Departments, Faculty Chairs, PI's, Safety Managers, as well as the OSHA reps and various industrial reps.

The keynote was delivered by Gene Block, UCLA Chancellor.

The breakout sessions each had a topic to work on and present ideas back to the group for discussion. One very relevant for our Department was:

"What roles should the institution's EH&S organization play in assisting researchers, and what services should they provide to lessen the bureaucratic aspects of safety for PIs?"

In summary the aim was to pool expertise and good practice so that people across the board can drive forward an improvement in academic research safety culture and safety practice.

PUBLICATION SPOTLIGHT

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

Steven Castleberry, Alexander Golberge, Malak Abu Sharkha, Saiqa Khang, Benjamin Almquist, William Austen Jr., Martin Yarmushe, Paula Hammond

Nanolayered siRNA Delivery Platforms for Local Silencing of CTGF Reduce Cutaneous Scar Contraction in Third-Degree Burns

Biomaterials 95, July 2016, 22-34

doi: 10.1016/j.biomaterials.2016.04.007

OUT AND ABOUT

David Nesbitt (Lee group) presented a talk at the biannual conference 'The Physics of Soft and Biological Matter' at the University of Cambridge organised by the Institute of Physics. The title of his talk is 'Wound healing as an active fluid: Viscous stability analysis on the leading edge of a closing wound.'

Claire Higgins gave a talk on work ongoing in her lab, at the Singapore International Conference on Skin Research 2016.

Dariusz Lachowski (del Rio Hernandez's group) participated in The International Liver Congress in Barcelona, Spain. He was awarded with the Young Investigator bursary and his work was selected within the 5 best posters in the category fibrosis. Dariusz investigates novel biomechanical mechanisms to target liver fibrosis and cancer. 13-17th April 2016, Barcelona, Spain. <http://ilc-congress.eu/>

Ben Almquist was one of the plenary speakers at the Wound Healing Society 2016 Annual Meeting in Atlanta, USA on 13 April.

Tyler Lieberthal (del Rio Hernandez's group) presented Exosonic – a microfluidic chip for early detection of pancreatic cancer during the Whitaker International Program Enrichment Seminar in Athens, Greece. 11-15 April 2016 <http://www.whitaker.org/home> The seminar is designed for current grantees to present their grant projects and share their experiences. The 3.5 day seminar is a great opportunity for grantees to network, learn about what their peers are doing, and meet IIE Staff and the Whitaker Steering and Review Committees. Whitaker seminar was also attended by Merdat

Jimmy Moore, Lowell Edgar, Mohammad Jafarnejad and Samira Jamalain gave an invited talk at the Gordon Conference on Lymphatics in California on their research on lymph node flow patterns.

STAFF & STUDENT SUCCESS

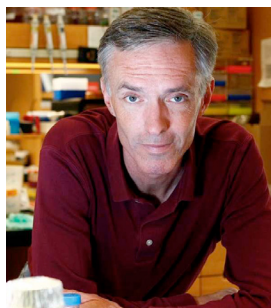
Paul Rinne and Michael Mace (Burdet group) and founders of gripAble have made it through to the last round, from 400 applications they are one of the top-10 teams in the OneStart Europe 2016 programme. They now have to develop their business plan which will be judged by the OneStart partners. The programme comes to an end with the Finals Gala on 16 May where they will pitch for the grand prize, with one team leaving the event with a cheque for £100,000 (non-dilutive funding). Here is a link to OneStart finalists: <http://onestart.co/startups/2016/europe> And a link to the event: <https://www.eventbrite.com/e/onestart-europe-2016-finals-gala-tickets-24395781439?ref=estw>

Dexter Gajjar-Reid (final year BEng student) has received the Thouron Award. Dexter has a full scholarship and stipend to study for a Master's in Bioengineering starting in Fall 2016 at the University of Pennsylvania.

Niall Logan (Higgins group) received a young scientist travel fellowship for scientific excellence, from the Skin Institute of Singapore, to attend the Singapore International Conference on Skin Research in April 2016.

Megha Agrawal (Tang group) has been granted Schlumberger faculty for the future fellowship award for her post doctoral research. Megha was first granted this award in 2015-16. Megha was amongst 80 successful fellows last year and is one of only 4 awarded the renewal. In addition to her research the criterion was based on her involvement in inspiring young girls about STEM education in her home country.

2016 BIOENGINEERING LECTURE



Synthetic biology: life redesigned

15 June 2016

17:30-18:30

G16, Sir Alexander Fleming Building

*Renowned researcher and inventor
Professor James Collins, MIT
presents the 2016 Department of
Bioengineering annual lecture*

Book your place by RSVP by emailing
[Angela Glyes](mailto:Angela.Glyes).

SUPPORT TEAM BIOENG!

Captain David Henson, PhD student in Prof Anthony Bull's group will be competing in the Invictus Games held in Orlando from 8-12 May. Coverage will be televised on BBC
<http://invictusgames2016.org/>

The Weinberg Group will be doing the BHF London to Brighton bike ride for British Heart Foundation again this year to raise money for the BHF who support their research and that of others
<https://www.justgiving.com/Zahra-Mohri2016/>

VIVA SUCCESS

Lomas Persad just passed his PhD viva on 18 April "Shoulder injury in cricket bowlers" Supervisor: Anthony Bull

Susan Mulcahy successfully defended her PhD on 20 April Supervisor: Martyn Boutelle

James Singleton passed his viva MD(Res) on 26 April Supervisors: Anthony Bull and Jon Clasper

UPCOMING EVENTS

Departmental Seminars

Thursdays 12.00-13.00

05 May 2016 12:00-13:00 RSM2.28

*Harnessing the Inflammatory Response for Tissue Regeneration
Dr Kara Spiller from the School of Biomedical Engineering,
Science, and Health Systems, Drexel University*

12 May 2016 12:00-13:00 RSM2.28

*Neuronal circuits underlying dynamic auditory processing
Dr Maria Geffen from the Department of Neuroscience, University
of Pennsylvania*

Imperial Events

3 May 2016

Althea-Imperial Final 2016

Imperial College London, South Kensington campus

7-8 May 2016

Imperial Festival and Alumni Reunion Weekend

Imperial College London, South Kensington campus

15 June 2016 17:30-18:30

2016 Bioengineering Annual Lecture

Professor James Collins, MIT

Imperial College London, South Kensington campus

http://www.imperial.ac.uk/bioengineering/about/bioengineering_lecture/

Conferences

4-7 July 2016

Eurohaptics 2016

Professor Etienne Burdet, Dr Ildar Farkhatdinov and Dr Franck Gonzalez are co-organising. Website: www.eurohaptics2016.org
Imperial College London, South Kensington campus

14-15 July 2016

Precision Medicines Conference 2016

South Kensington, London

Including talks from Sylvain Ladame, Armando del Rio Hernandez and Molly Stevens from the Department

5-6 September 2016

MEIbioeng16 (abstract deadline 6 May)

Institute of Biomedical Engineering, University of Oxford

Website: <http://meibioeng.org/>

7-9 September 2016

Young Researchers' Futures Meeting 2016

Medical Imaging and Interventions: engineering a better look at cancer
Imperial College London, South Kensington campus

Website: <http://www.yrfm.uk/>

12-14 September 2016

Medical Physics and Engineering Conference 2016 (MPEC)

Science for patient benefit

Manchester

Website: www.ipem.ac.uk/ConferencesEvents/MPEC.aspx

5-8 October 2016

2016 BMES Annual Meeting

Innovation at the Interface (abstract deadline 26 April)

Minneapolis Convention Center/ Minneapolis, Minnesota, USA

Website: bmes.org/annualmeeting

ALUMNI CORNER

Tazeen Bukhari is now Biomedical Consultant at Chief Minister's Special Monitoring Unit, Government of Punjab, Pakistan.

Hannah Darton is now Service Value Analyst at Joseph Rowntree Foundation (JRF)

CONGRATS TO OUR NEW GRADS!
(MAY THE 4TH BE WITH YOU)

CONTACT

Send news for the next issue to:

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Outreach & Public Engagement Manager