Life Sciences Newsletter

Department of Life Sciences **May 2014**

Welcome to all New Staff

Research Associates

Luca Cornetti, supervised by Vincent Savolainen; **Laura Nolan** (Marie Curie Research Fellow), supervised by Alain Filloux; **Andreas Klaus Broedel** supervised by Mark Isalan.

Research Assistants

Anna Lee Jerve, supervised by Martin Daniel Brazeau.

Research Technicians

Sara Elizabeth Zakutansky, supervised by Michael Delves.

Visiting Researchers

Jennifer Adele Samson, supervised by Paul Freemont; **Taha Shahid**, supervised by Xiaodong Zhang; **Kasper Buus Moller Jensen**, supervised by Michael Sternberg, **Harini Velocity Hughes**, supervised by Morgan Beeby

Visiting Scientists

Xu Liang, working with Colin Prentice.

Support Staff

John Lloyd Collins (Commercial Director), working with Paul Freemont.

Academic Staff promotions

Many congratulations to the following members of staff for their success in the annual academic promotions round:

Pietro Spanu: promotion to **Professor**

Kostas Beis: promotion to **Senior Lecturer**

Ernesto Cota: promotion to **Senior Lecturer**

Great achievement! Well done!

DoLS Athena Swan

This year's ***Annual Athena Lecture*** will be delivered by Professor Deborah Smith OBE, Pro-Vice Chancellor for Research, University of York and previously Professor of Molecular Parasitology in the Department of Biochemistry at Imperial College on ***'Passion, parasites and people'*** **Thursday 12 June 2014** (18:00 - 19:00 pm in G34 SAF, South Kensington Campus. A drinks reception will follow the lecture. For further details click here. **RSVP to** Amna Siddiq.

Departmental Events

CSB open day

The Centre for Structural Biology's annual open day, taking place on **06 Jun 2014**, provides a great opportunity for people to meet and hear from outstanding international scientists.

Click HERE for further details.

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Special Seminar

Prof. Neil Marsh from the University of Michican will give a special seminar on **Thursday 5th June 2014**, entitled "Alkane Biosynthesis by Cyanobacterial Aldehyde Deformylating Oxygenase: Simple Substrate; Complicated Enzyme"

Room 120-121, Sir Alexander Fleming Building, from 4-5pm

Host: Patrik Jones

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Please note that the ***Departmental Seminar***, due to take place on 6 June 2014, has been cancelled.

Talks

Maruf Ali gave a talk at "ER Stress and Heat Shock Response International Meeting at Cold Spring Harbour, USA. May 2014" where he presented a new model of how ER stress is detected in cells via an unconventional ERHsp70 ATPase interaction with UPR sensors that dissociates upon the presence of unfolded protein CH1.

Helen Pennington presented at the 2014 Molecular Biology of Plant Pathogens meeting, with the title "RNase like effectors and their putative interactors" Click here for further details.

Appointments

Bill Rutherford has been elected a Fellow of the Royal Society.

Bill Wisden has been elected a Fellow of the Academy of Medical Sciences.

Nick Franks has been appointed a Visiting Professor at the Karolinska Institute in Stockholm.

Geoff Baldwin has been appointed as external examiner to the sub-board of Biosciences for the BSc in Biomedicine and BSc Chemical and Molecular Biology degrees, Birkbeck College, University of London, 2014 – 2016.

Research Grants and Fellowships

Morgan Beeby was awarded a BBSRC research grant for approximately £450K, entitled 'Towards designing synthetic molecular motors: in situ visualization of the progressive evolution of molecular gearing by bacteria".

Michalis Barkoulas was awarded a BBSRC New Investigator grant (£536K- pending confirmation) to "decipher the mechanisms and evolution of developmental robustness in *C. elegans*" and a Royal Society Research Grant (£15K) to purchase a camera in order to set up single molecule fluorescent in situ hybridisation (smFISH).

Geoff Baldwin was awarded a TSB grant (101847) as PI, 'Automated Gene Assembly from Codons to Complete Genes and Pathways'. £347K, 2014-15 **and** awarded an EU Marie Curie IEF Fellowship (programme Director)**,** Directed Evolution in vivo enabled through genetic circuits in a synthetic biology approach, 2014-2016.

Cristina Lo Celso & **Michael Stumpf** have been awarded a joint BBSRC grant, worth approximately £860K.

Jie Song has been awarded a Royal Society University Research Fellowship to work on 'Reprogramming of Epigenetic Memory during Plant Regeneration'. The Fellowship will start in October 2014.

James Rosindell has been awarded a NERC fellowship to continue his research on 'Biodiversity Theory for Understanding the Effects of Habitat Fragmentation at Multiple Scales'.

Sarah Knowles has been awarded a NERC fellowship.

Eoin O'Gorman has been awarded a NERC fellowship to continue his research on a geothermally heated area of Iceland, which acts as a natural global warming experiment.

Prizes and Awards

Helen Pennington (PhD Student) received a PrimerDesign Gold scholarship.

Publications

Miguel B. Araújo *et al***.** 'Multiple Dimensions of Climate Change and Their Implications for Biodiversity' was published in *Science*, 2 May 2014: Vol. 344 no. 6183.

O'Gorman, EJ, Benstead, JP, Cross, WF, Friberg, N, Hood, JM, Johnson, PW, Sigurdsson, BD, and Woodward, G (2014). Climate change and geothermal ecosystems: natural laboratories, sentinel systems, and future refugia. *Global Change Biology*, in press.

O'Gorman, EJ (2014). Integrating comparative functional response experiments into global change research. *Journal of Animal Ecology*, in press.

Alfonso De Simone is a co-author in an article by Fusco, G. *et al.* Direct observation of the three regions in alpha-synuclein that determine its membrane-bound behaviour, published in *Nature Communications*, 2014, 5:3827. doi: 10.1038/ncomms4827

Jorg Schumacher *et al***. '**Nitrogen and carbon status are integrated at the transcriptional level by the nitrogen regulator NtrC in vivo', published in late 2013 in *MBio*, received a 3 star recommendation by the Faculty 1000.

Cristina Lo Celso's manuscript: Rashidi, N., Scott, M., Scherf, N., Kalchschmidt, J., Gounaris, K., Selkirk, M.E., Roeder, I. and Lo Celso, C. (2014) entitled "In vivo time-lapse imaging of mouse bone marrow reveals differential niche engagement by quiescent and physiologically activated hematopoietic stem cells" has been accepted for publication in *Blood* (IF 9.9).

Kostas Beis' paper: Choudhury H, Zhen T, Mathavan I, Li Y, Zhirah S, Iwata S, Rebuffat S, van Veen H, Beis K (2013) "An antibacterial peptide ABC transporter in a novel outward occluded state" has been accepted in PNAS.

Kostas Beis' paper: Mathavan I, Zhirah S, Mehmood S, Li Y, Robinson CV, Rebuffat S, Beis K (2014) "Structural basis for hijacking outer membrane siderophore receptors by antimicrobial peptides: structure of the lasso peptide microcin J25 bound to FhuA" has been published in Nature Chemical Biology 10: 340-342

Media/outreach activities

Miguel B. Araújo's publication 'Multiple Dimensions of Climate Change and Their Implications for Biodiversity', published in *Science*, 2 May 2014: Vol. 344 no. 6183 was announced on the Imperial web site.

Walter Jetz was quoted in the *Mail on Sunday* (11 April): "From the 'little dodo' to the flightless parrot: World's 100 most unique and endangered birds are revealed in new list". Lead author Prof Walter Jetz [Department of Life Sciences] from Yale University and Imperial College London, says: 'These highly distinct and endangered birds often occur far away from places that are species-rich or are already on conservation's radar. By identifying these top 100 species, we can now focus our efforts on targeted conservation action and better monitoring to help ensure that they are still here for future generations to come. As we show, conservation priorities can be adjusted to better conserve the avian tree of life and the many important functions it provides.'

A publication from **Alexa Lord** in Behavioural Ecology this month attracted considerable media attention: including the BBC One Show, the Sunday Telegraph, an article and cover shot in The Week, Time Out, The Today Show on Radio 4, and Radio Wales Breakfast.

Robert Endres is a co-organiser of a major physics/biology conference in the UK: Physics Meets Biology, St. Anne's College, Oxford University, 3-5 September 2014.

Geoff Baldwin started a consultancy project to exchange knowledge of DNA assembly for synthetic biology applications. This technology has been developed as part of an EPSRC funded project (EP/J02175X/1), and fulfills our outreach objective of meaningful engagement with industry.

Year 7 and 8 pupils from Riverside School in Barking enjoying learning about research into the behaviour of African crickets during a DoLS "Bridge to Higher Education" visit organised by **A Dell** (AOC Chair)

The DarwinTunes team from DoLS showed off their new evolutionary music experience at the Imperial Festival. Until now, DarwinTunes has been used mostly as a research tool to understand how culture can evolve by Darwinian processes. Now, the team (headed by **Bob MacCallum,** with **Armand Leroi**) has built a new interface that makes it look a lot more like a game. About 150 people dropped by, played, made music, and heard about how culture is shaped by selection. They were delighted by the results, which can be heard at darwintunes.org. Next stage: an app! Click here to read media coverage in the Guardian.

Health & Safety

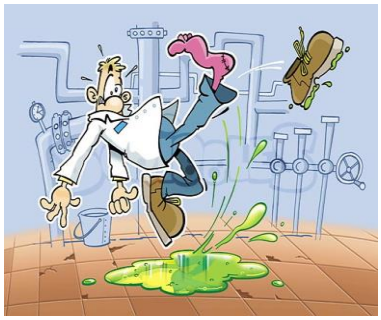
Highlight on accidents and near misses

The Department of Life Sciences wants to encourage more reporting of incidents that have, or could affect the health and safety of those at Imperial to ensure they are prevented from happening again. Importantly the reporting of accidents and near misses **is not** used to apportion blame.

Accidents and near misses can be easily reported online via this link: SALUS reporting. Follow this link for more information: Accident and near miss guidance.

Reporting of accidents and near misses is important to:

1. Enable causes to be established and prevent recurrence.
2. Allow collection of accident and near miss events to observe trends or particular issues that need further consideration by Dept. and College management.
3. Ensure we comply with the legal requirements to report certain types of injuries, work associated diseases and dangerous occurrences to regulatory authorities.



Key things not to do:

1. Assume someone else will report an incident – we would rather have a number of reports of the same incident than none at all.
2. Worry about being blamed for an incident – the aim is to identify the underlying causes of accidents not blame those who are unfortunate enough to have been affected.

If you have any questions about accidents, near misses or health and safety issues please contact: Stefan Hoyle (s.hoyle@imperial.ac.uk) / Life Sciences safety information: http://www3.imperial.ac.uk/lifesciences/safety.