

Life Sciences Newsletter

Imperial College London

January 2015

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MESSAGE FROM THE HEAD OF DEPARTMENT

Dear all – Welcome back to a new term. The long-awaited results from REF2014 were finally announced in December. As departments (more accurately, 'units of assessment') are allowed to be highly selective in submitting staff to the exercise, there are many ways of interpreting the results. The most unbiased method is to multiply the overall quality score by the proportion of eligible staff submitted to give a score for 'research intensity', and under these terms, the Department of Life Sciences was judged to be the top ranked university department for Biological Sciences in the UK. Comments from the assessment panel include:

"A large proportion of the outputs submitted were judged to be world-leading in terms of originality, significance and rigour and there were significant strengths across the board... All of the research environment was judged to be conducive to producing research of world-leading quality, in terms of its vitality and sustainability... Effective and sustainable doctoral research training and evidence of a strong and integrated research student culture... Clear evidence of support for early career researchers, leading to the award of a number of prestigious fellowships... The panel was particularly impressed by the vitality of the unit's national and international collaborations".

This is a fantastic achievement for the department, especially considering all the changes we have been through. Investment in new staff over the last few years has put us in great shape for the future, and we can look forward to building on our success.

Best wishes - Murray

WELCOME TO ALL NEW STAFF

Academic & Research

Research Associates: **Christopher Reynolds**, supervised by Michael Sternberg; **Bonnie Chaban**, supervised by Morgan Beeby; **Christopher Hutchison**, supervised by Jasper van Thor; **Marc Sturrock**, supervised by Mark Isalan & **Tatiana Dimitriu**, supervised by Ben Raymond.

Technical Services

Research Technicians: **Mark Wilkinson & Fabio Fisher**, supervised by Jake Baum and **Christopher Waite**, supervised by Martin Buck.

Professional Services

Part-Time Postgraduate Administrator: **Jennifer Bennett** based in the DoLS Teaching Office.

TALKS

George K. Christophides presented the latest findings from the research in his laboratory on malaria transmission at the Forum on Microbial Threats of the Institute of Medicine, National Academies of Sciences, in Washington DC. The title of his talk was "Anticipatory immunity and counteracting Plasmodium immune evasion strategies in Anopheles gambiae".

Marion Pfeifer gave an invited seminar at the University of Stirling on 'Analysing biological responses to land use changes in the tropics'. December 8th, 2014.

George K. Christophides gave an invited talk at the National Institutes of Health, USA. His talk, entitled "Malaria: the battle within mosquitoes", was focused on the mosquito immune response against malaria parasites and the parasite evasion strategies.

ATHENA SWAN

The Chair of the AOC welcomes advice from DoLS staff and students concerning information on the department that they would like to access via the DoLS website and isn't there now. Please submit any ideas/suggestions to Lenne (l.lillepuu@imperial.ac.uk).

Interesting reads:

[Evidence that Gendered Wording in Job advertisements Exists and Sustains Gender Inequality](#)

["Not for people like me? Under-represented groups in science, technology and engineering](#)

Unconscious Bias – similarly to the training on Bullying & Harassment, the AOC has recommended organising bespoke training sessions on Unconscious Bias for all staff with line management responsibilities in the first instance. These will take place in Spring/Summer term – keep tuned.

DID YOU KNOW

...that all staff who are on recruitment panels are expected to have attended Recruitment and Selection training? Good news is that it only takes about an hour or so (tested by Lenne) to complete the new [online Recruitment and Selection course](#). Wait no more and update your knowledge now!

POSTDOCNEWS

It has been agreed that all Postdocs will have their PRDPs carried out by the end Feb/March 2015 – exact details, including the forms and format, will be communicated via Lenne in due course.

The Postdoc Rep has been invited to attend Academic Staff Meetings to represent the postdocs' voice. Next meeting will take place in March 2015.

All postdocs who would like additional/specific guidance and advice on their grant applications should contact Lenne Lillepuu (l.lillepuu@imperial.ac.uk) in the first instance **at least 6 weeks before their application deadline**.

Have you seen the information about the [Paths for Postdocs talks](#) organised by the Postdoc Development Centre?

PRIZES AND AWARDS

Vincent Savolainen has been awarded the Coincy Prize by the French Society of Botany.

Jason Tylanakis received the annual 'Te Tohu Taiao' award for excellence from the New Zealand Ecological Society.

Luke Roberts won one of three 'best poster' prizes awarded at the Wellcome Trust 'Final year PhD students annual meeting' on October 24th 2014, for his poster titled: "Type 2 Innate lymphoid cells synthesise and release acetylcholine during pulmonary nematode infection and allergic airway disease".

Andrew Blagborough received a Travel award (approx £5K) from The Japan Society of Medical Entomology and Zoology to visit Kanasawa University in March/April.

PUBLICATIONS

Da DF, Churcher TS, Yerbanga RS, Yaméogo B, Sangaré I, Ouedraogo JB, Sinden RE, **Blagborough AM**, & Cohuet A. 'Experimental study of the relationship between *Plasmodium* gametocyte density and infection

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Staff Development Opportunities:

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Postdocs Dev. Opportunities:

[Postdoc Development Centre](#)

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success in mosquitoes; implications for the evaluation of malaria transmission-reducing interventions' *Experimental Parasitology*, 2014 Dec 22.

Mondal N, Buffone A Jr, Stolfa G, Antonopoulos A, Lau JT, **Haslam SM**, **Dell A**, Neelamegham S. paper 'ST3Gal-4 is the primary sialyltransferase regulating the synthesis of E-, P- and L-selectin ligands on human myeloid leukocytes' *Blood*. 2014 Dec 10. pii: blood-2014-07-588590. [Epub ahead of print].

Progzatzky, F., Sangha, N.J., Yoshida, N., McBrien, M., Cheung, J., Shia, A., Marchesi, J.R., Lamb, J.R., **Bugeon, L.** & **Dallman, M.J.** Dietary cholesterol directly induces acute inflammasome-dependent intestinal inflammation, *Nature Communications*, 2014 DOI: 10.1038/ncomms6864.

New research in the laboratory of **George K. Christophides** published in *Nature Communications* reveals that treatment of malaria patients with antibiotics can significantly impact on bacteria found inside the mosquito gut and affect the capacity of mosquitoes to transmit malaria. **Mathilde Gendrin** and collaborators demonstrated that when mosquitoes feed on blood of malaria patients that is treated with the antibiotics penicillin and streptomycin, bacterial growth inside the mosquito gut is severely compromised, making mosquitoes more prone to infections by malaria parasites. These mosquitoes also live longer, thus increasing their chance to pass on the parasites to another person. These findings could have important implications on the use of antibiotics in malaria endemic countries.

Reyer CPO, Brouwers N, Rammig A, Brook BW, Epila J, Grant RF, Holmgren M, Langerwisch F, Leuzinger S, Lucht W, Medlyn B, **Pfeifer M**, Steinkamp J, Vanderwel MC, Verbeeck H, Vilella DM (2015). Forest resilience and tipping points at different spatio-temporal scales: approaches and challenges. *Journal of Ecology* 103.

Martin Brazeau's paper 'Osteichthyan-like cranial conditions in an Early Devonian stem gnathostome' was published in *Nature*, 12 January 2015.

Hurskainen P, Hemp A, Pellikka PKE, **Pfeifer M**. Land cover change impacts on biodiversity in Mt Kilimanjaro Savanna Zone. 36th International Symposium on Remote Sensing of Environment. Berlin. May 2015. <http://www.isrse36.org/welcome/>

Tanai Cardona published a paper reassessing the origin of photosynthesis: "Tanai Cardona (Dec 16, 2014) A fresh look at the evolution and diversification of photochemical reaction centers, Photosynthesis research."

MEDIA/OUTREACH ACTIVITIES/EVENTS BEING HOSTED

Stephen Curry's article 'Home secretary blows a hole in government's new science and innovation strategy' was published in the *Guardian* on 21 December 2014.

Jamie Jones was invited to participate in a roundtable of Ebola Researchers at the University of California, Irvine, where he talked about the ecology of Ebola emergence. The full video of the talk (and all the others) is available here: http://publichealth.uci.edu/ph_docs/ebola.

Simon Pooley was interviewed on 4 December, live on CapeTalk Radio about his recent book *Burning Table Mountain: an environmental history of fire on the Cape Peninsula* (Palgrave Macmillan, 2014).

Stephen Curry narrated and script-edited the RI Channel animation '[Celebrating Crystallography](#)' that won a 2014 European Science TV and New Media Award. The video is a product of a joint STFC grant between Steven and the Royal Institution.

Ben Holt and **Knud Andreas Jønsson** were quoted in the *Conservation* (12 November) in an article: "Evolutionary evidence shows it's time to revise how we classify life on earth". **Steven Curry** was quoted in the BBC article on *Scientists attack Home Secretary's student exit plan*, 23 December 2014.

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Chitvan Amin, Christoph Engl and Marko Storch (PDRAs in DoLS) organised a BBSRC funded Research Commercialisation seminar “From IDEA to IMPACT: Pathways to Knowledge Transfer and Commercialisation for Academia” on 14th Nov 2014. This afternoon event explored the opportunities for research scientists across Imperial College to engage in collaborative projects with industrial partners. Distinguished Imperial College scientists and fellows discussed their experience as principal investigator, consultant and industry partner. In addition, talks from industrial experts (AstraZeneca, Domainex Ltd.) and the Imperial College research commercialisation team i.e. Imperial Innovations, Imperial Consultants and Corporate Partnerships.

Martin Brazeau was quoted in The Daily Mail in an article ["Sharks aren't as primitive as we think: Fossil reveals marine predators lost their bony armour earlier than assumed"](#)

RESEARCH GRANTS & FELLOWSHIPS

Andrea Crisanti has been awarded a €1,053,000 grant under the H2020 Marie Skłodowska Curie Research and Innovation Staff Exchange (RISE) scheme. The project titled *Monitor population immunity against vaccine preventable diseases* (VACCINESURVEY) started on 01.01.2015 and will run for 4 years.

Jon Lloyd has been awarded £1,312,162 by the Royal Society-DFID Africa Capacity Building Initiative for “The science underpinning the West Africa forest-island phenomenon”

Maggie Dallman (co-applicants: **Laurence Bugeon, Trevor Hansel**) has been awarded a 12-month research grant from the **NC3Rs** to develop a model for the study of respiratory inflammation in the zebrafish, Imperial College London (£99,830) See press release [here](#).

Sarah Knowles was awarded a BES large grant (£20,000) to study genetic and environmental effects on the bird microbiome in collaboration with Dr. Jarrod Hadfield at University of Edinburgh.

A British Ecological Society - Ecologists in Africa Grant was awarded to Pieter Olivier (University of Pretoria) allowing him to carry out fieldwork assessing biophysical resilience and biodiversity relationships for coastal forests in South Africa working with **Dr Pfeifer**.

Alfonso De Simone was awarded a research grant for £198,531 (+ up to £6k of travel expenses for conference meetings) from British Heart Foundation (BHF) for 3 years for his research titled: *Understanding the calcium uptake in cardiac sarcoplasmic reticulum: toward new routes to combat human dilated cardiomyopathy*. He will be collaborating with University of Minnesota, University of Chicago, and Mount Sinai school of medicine in New York.

George K. Christophides has received a 3-year Science Without Borders award by the Brazilian CNPq to expand his research in Brazil. The award is in collaboration with Dr Jayme Souza-Neto of the Sao Paulo State University and aim to reveal new molecular insights into *Plasmodium vivax* malaria transmission by *Anopheles darlingi* in Brazil.