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Head of School Editorial (by Dr Neil Hotchin)

The first couple of months as Head of School have flown by in a blur and there's lots going on at the moment for all of us including REF, Royal Society of Biology accreditation, OVDs and MIBTP interviews to name but a few. Can I thank everyone for the way in which they've not only made me feel welcome in my new role, but also stepped up to meet some of the challenges. Two highlights from my first couple of months stick out. The first was hearing of funding successes from several of our early career researchers and the second was an "Our students are awesome" email thread. This highlighted just some of the ways in which our students have been excelling over the past few months and is not just a testament to the ability of our students but also the quality of the education we, as a School, deliver. A particular thanks goes out to all of you involved in developing that excellence. Finally, a reminder that the next School staff meeting is at 2pm on Wednesday 25th March.



Student Help Desk a Hit with Staff and Students

Seeking out an academic in their office through the maze of the Biosciences department can be challenging and intimidating. Equally as intimidating is receiving tens or hundreds of email questions from students. To improve staff-student communication and feedback, we offer general and assignment specific 'Ask-Me' Help Desk sessions in the Undercroft every Tuesday and Friday from 12 noon to 1 pm during term. Students can ask for advice on any aspect of their studies and discussions have ranged from seeking help with assignments to interpreting and applying feedback. Sunita Sisodiya (final year MSci Biochemistry) says about the experience: "I found the drop-in session really helpful and convenient. It can sometimes be difficult to organise meetings and communicate via email because both students and professors are always busy, so I think it's really supportive that the drop-in sessions are available to us."



Here to help: look out for the 'Ask Me' sign.

For students: if you have a question, drop by or look out for announcements on Canvas for sessions. For academic staff: consider offering your own sessions or come join us at the weekly Help Desk.

Upcoming Events

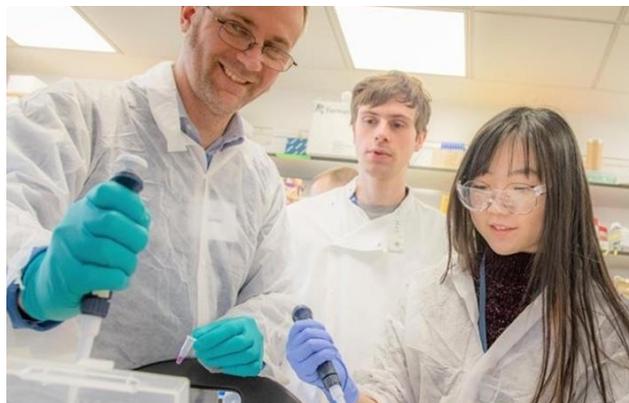
Equal in STEM conference March 4th 3pm-8pm hosted by WISE (Women in Science & Engineering), oSTEM (Out in STEM) & BEaMS (Black Ethnic & Minority Scientists). Tickets available through Facebook <https://www.facebook.com/events/840388956432303>

BioSoc Easter Ball Thursday 26th March, tickets on sale now through the Guild website (<https://www.guildofstudents.com/ents/event/4747/>). Students and staff welcome.

Opportunity to join BioSoc Committee: BioSoc AGM March 5th at 6pm in the Murray Learning Centre (<https://www.facebook.com/BioSocUoB/>).

Placement Year Article (by Luca Love, Biological Sciences MSci)

Last year I did my placement at an epigenetics research lab at the Babraham Institute in Cambridge, examining histone marks and how they affect aging in yeast. During my time there, I learnt many lab techniques (e.g. RNA-seq, Western blotting, and fluorescence microscopy) and worked almost independently for the second half of my placement. The complexity of the work and the high level of organisation needed was tough at first, but I quickly settled into how to plan my work and time. It was an amazing experience and I thoroughly enjoyed being so involved in research and working with talented researchers. Because of this, I have gained a lot of experience in project and time management, which I will use later in my career. I now feel confident that I can do a PhD after my placement.



The Safe Mole (by Dr Pete Lund and Dr Emma Monaghan)

The School Health and Safety Committee is responsible for managing the programme of safety inspections, currently focussed on laboratory space, so if your area has not been visited by us, you can probably expect a visit fairly soon. The main aim of these inspections is to help everyone to work safely, so please look upon them as an opportunity to review and improve all aspects of safe working in your lab. You will always get plenty of advanced notice of inspections – more than you might get from external inspectors – and we're here to help with your preparation for our visit if you have any questions.



A few points have arisen from recent inspections, if you're a PI, please be around for inspections, or appoint someone to represent you. Good housekeeping is an important part of safety so please keep your labs tidy. We do inspect safety documentation as well, so make sure it's up to date and accessible to all including project students. The team will generally include your lab manager, who is your first port of call for disposal of old or unwanted chemicals, so please make sure you work with them to get rid of unneeded material.

The Postdoc Pages

Entrepreneurship Workshop: Wednesday 25th March 10am – 2pm, Muirhead Tower.

Are you post doctorate or early career researcher? Would you like help in engaging with SMEs (small and medium enterprises) or discovering new ways to combine resources and gain a greater understanding of entrepreneurship, market analysis or stakeholder engagement?

For further information and to register, visit

<https://www.eventbrite.co.uk/e/93513384049>



Biotechnology and
Biological Sciences
Research Council

Host a student this summer!

Want to help disadvantaged and under-represented 16-17 year olds gain an insight into science, technology, engineering or maths? Volunteer with In2ScienceUK. Visit our website: in2scienceuk.org or email James@in2scienceuk.org.

If you have anything you want to include in the Mole Postdoc Pages then please contact Doug Browning on (D.F.Browning@bham.ac.uk).

Microbiology (μM)

A new way to combat antibiotic resistance

A probiotic drink could become a promising new weapon in the battle against antibiotic resistant bacteria, after a team led by Prof Chris Thomas engineered and patented a plasmid-based genetic element that can tackle the genetic basis of resistance. The research team intends to develop a drink containing bacteria (in a similar way to drinks like Yakult) carrying a new type of plasmid (pCURE), which has been manipulated to incorporate genes blocking the replication of resistance plasmids. pCURE is also designed to block the system that resistance plasmids use to kill any bacteria that lose them.



Biosystems & Environmental Change

David Pettifer wins the University "Images of Research" Competition

David is a CENTA-NERC funded PhD student studying the impacts of ageing on chimpanzee locomotor behaviours and musculoskeletal health. David took his winning photo of Lanjo, an eastern chimpanzee, whilst doing field work during a visit to the Kibale National Park in Uganda in 2017.



Lanjo is a 21 year old eastern chimpanzee. Despite his grey hair he might live another 10 years.

Network formed to tackle pollution in Madagascar (by Prof John Colbourne)



Our School and College joins Indiana University with Pure Earth and other partners forming the 'Solve Pollution Network'. This network aims to solve pollution problems, which lead to 1 in 3 human deaths in Madagascar. This pollution also affects the flora and fauna, which is well known for its biodiversity (more than 80% of the species in Madagascar exist nowhere else).

Recently, the John D. and Catherine T. MacArthur Foundation named this project, as one of the highest-scoring proposals in its 100&Change competition. By having received this recognition, our project is now featured in the Foundation's [Lever for Change Bold Solutions Network](#), designed to

unlock significant philanthropic capital by helping donors find and fund vetted, high-impact opportunities to improve people's lives. So far, MacArthur has raised an additional \$419 million to support bold solutions. Find out more: www.environmentcareconsortium.org/blog

Plant Science & Food Security

Dynamic Genome symposium in Shanghai

In November Dr Marco Catoni visited Shanghai, China for a symposium called "Dynamic Genome" at the Institute of Plant Physiology and Ecology. This event built connections with the two most important plant sciences research institutes in Shanghai and to disseminate his work on plant epigenetics to colleagues working in the same field.



Symposium organiser Dr Jungnam Cho (CEPAMS - Shanghai, left) and Dr Marco Catoni (right).

Recent News from the Research Themes



BIFoR Fourth Annual Meeting

The 4th annual BIFoR meeting took place at the Edgbaston Park Hotel on the 29-30th January. This two-day event brought together over 100 students, scientists and forestry practitioners to discuss the latest developments in the field of tree health. The meeting was opened by LES Director of Education (and BIFoR Director) Prof Jeremy Pritchard, and featured talks on topics as diverse as tree pathology, evolution of seed-plant reproduction, European conservation and the global methane cycle. The afternoon session was held in conjunction with the Action Oak initiative (<http://www.actionoak.org/>). The second day focused on the research underway at the BIFoR FACE facility in Staffordshire. The day was opened by Head of College, Prof Laura Green, followed by a keynote talk from Prof Rich Norby (an Institute of Advanced Studies Distinguished Visiting Fellow).

Welcome to the new Deputy Head of School, Professor Rob Jackson

Rob has been appointed the Chair in Tree Pathology at the Birmingham Institute of Forest Research (BIFoR). Rob is a renowned plant microbiologist and specialises in the study of the interaction between microbes and plants. He has more than 25 years' experience working on plant pathology problems.



Cells & Molecules

Breakthrough in brain plasticity

Prof Alicia Hidalgo's group have discovered an exciting new mechanism by which brain plasticity is regulated. Plasticity refers to the way in which the brain adapts and changes over time, and is central to the development of neurodegenerative diseases. Guiyi Li (pictured right, with Alicia, left) and colleagues identified membrane proteins of the Toll receptor family as key regulators of plasticity, using the powerful genetics of the *Drosophila* fruitfly model organism.



Funding for new project on non-coding RNAs and Prader-Willi Syndrome

Dr Pawel Grzechnik was awarded a grant from the US Charity Foundation for Prader-Willi Research. Prader-Willi Syndrome is a rare genetic condition with no cure, which causes physical disabilities, learning difficulties and behavioural problems. Pawel and the funded postdoc will investigate how unusual non-coding RNAs, transcribed from the Prader-Willi locus, regulate transcription in induced pluripotent stem (iPS) cells, and how lack of these RNAs affects differentiation to neurons. Pawel will collaborate with Dr Paloma Garcia, from the Institute of Cancer and Genomic Sciences in MDS, on the iPS cell aspects of the work.

Launch of the Midlands RNA salon in Birmingham

The first meeting of the Midlands RNA Salon on 5th December, hosted by Dr Pawel Grzechnik and Dr Kinga Winczura, attracted more than 70 participants from Universities of Birmingham, Nottingham, Warwick, Leicester and Nottingham Trent. Seven talks covered topics from transcription to RNA degradation and a social event fostered new collaborations between researchers across institutions. Thank you to the RNA Society, Lexogen and PCR Biosystems for sponsorship. The 2nd Midlands RNA salon will be held on 28th February at the University of Nottingham.



Recent Publications

Biosciences students and staff in bold.

Borna S, Drobek A, Kralova J, Glatzova D, Splichalova I, Fabisik M, Pokorna J, Skopcova T, Angelisova P, Kanderova V, Starkova J, Stanek P, Matveichuk OV, Pavliuchenko N, Kwiatkowska K, Prottly MB, **Tomlinson MG**, Alberich-Jorda M, Korinek V, Brdicka T (2020), 'Transmembrane adaptor protein WBP1L regulates CXCR4 signalling and murine haematopoiesis', *J Cell Mol Med.* **24**, 1980-1992.

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Hale OJ, **Cooper HJ** (2020). 'In situ mass spectrometry analysis of intact proteins and protein complexes from biological substrates', *Biochem Soc Trans*, pii: BST20190793.

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Noris, E. and **Catoni, M.** (2020). Role of methylation during geminivirus infection, in Poltronieri, P. and Hong, Y. (ed.) *Applied Plant Biotechnology for Improving Resistance to Biotic Stress (1st Edition)*. Cambridge, Massachusetts: Academic Press, pp. 291-305.

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Recent Publications

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