UNIVERSITY OF BIRMINGHAM

SCHOOL OF BIOSCIENCES

The Mole

The Biosciences Newsletter | July 2022

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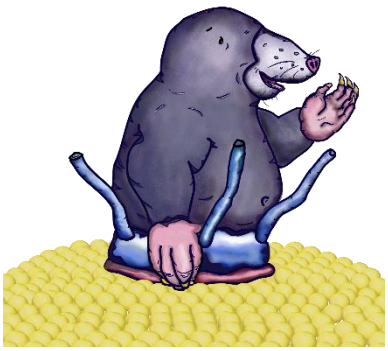
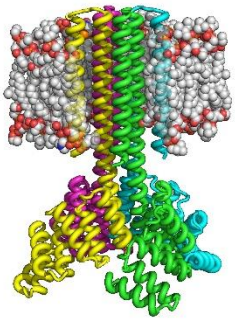


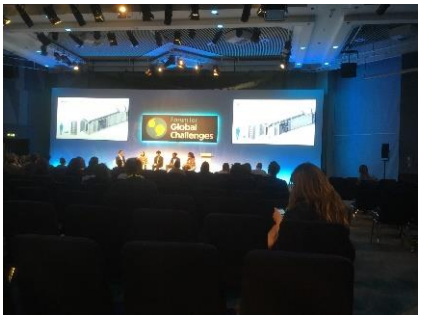
Summer issue

(with a focus on Structural & Molecular Cell Biology research)



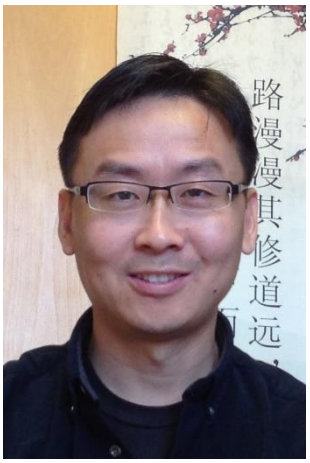
Editorial by Rob Jackson
Head of the School of Biosciences

It's been almost two months now since I took on the Interim HoS role. My first week saw the release of the REF results. This showed that we had made a major step forward in our impact submission, had a good proportion of 4* papers, and a strong return for Environment. My thanks go to everyone who was involved, from producing outputs and impact case studies, to peer review and producing the submission. Although the overall outcome for our School did not change from the last submission, the University itself made considerable advances in the rankings. This is important because of the funding the University will receive, as well as helping with various activities we are involved in, including student recruitment. The early signs are that we might manage to attain a similar number of students as last year, but this sits well below our target and we will need to work on ways to improve this – there are several initiatives already in play to improve things like open and visit days, and to help raise our profile. A big thank you to all colleagues who have worked so hard to ensure exams and dissertations have been graded on time, and especially to Julia Myatt, who has endeavoured to manage the various challenges that have cropped up at short notice. I also heard last week that Professor James McDonald will join our School from Bangor University. James is a microbial ecologist who works in tree disease and biomass-degrading microbiology. He has an outstanding track record, and I am sure he will make many positive contributions across the School and College. Finally, a massive congratulations to Helen Cooper on receiving the Theophilus Redwood award from the Royal Society of Chemistry, a very prestigious achievement! Please do try and attend the Biosciences graduation ceremony on Friday 15th July, as well as the pre-ceremony social, to celebrate all our students, hope to see you there.



The Editor adds: A lot has happened in the School in the last few months but, for me, the highlight was the Biosciences Graduate Research School Student Research Symposium on the 6th May, which presented an amazing feast of top-notch science presented with enthusiasm and optimism. Together with the REF results, the Forum for Global Challenges, Inaugural Lectures from Nigel Maxted and Alicia Hidalgo, the BioCup, plus various College-led celebration events, the buzz is back in the labs and hallways of our ugly yet magnificent building, and, of course, all of this is captured by *the Mole*!

For this edition, the focus is on the School's Structural and Molecular Cell Biology research theme, which is one of the four research pillars, from which everything we do in the School is constructed, being a research-lead School. Remember too, if you can't get enough of *the Mole* here, there is a link on the School Intranet pages where many of the past issues, dating right back to 2006, can be accessed: https://intranet.birmingham.ac.uk/les/biosciences/newsletter/index.aspx



Dr Yun Fan, theme coordinator, introduces Structural and Molecular Cell Biology:

The theme has recently evolved from the theme of "Cells and Molecules" to reflect our wide range of expertise on understanding fundamental mechanisms of biology underpinning human health and diseases. We work on broad areas of research including chromosomal and RNA biology, developmental and behavioural neurobiology, membrane protein biology, molecular and cellular genetics, proteomics and mass spectrometry, structural biology and molecular biophysics, and translational cancer biology. This gives us a tremendous opportunity to share know-how and develop interdisciplinary collaborations. One channel for us to do this is our weekly theme research meetings organised and presented by our young fellow researchers. These meetings are now moving to a hybrid format after two years of virtual experience. If you are interested in learning more about what we do, please feel free to get in touch and attend these meetings (cellsandmolecules@contacts.bham.ac.uk).

As a theme, we've had a lot to celebrate recently. Helen Cooper has won the 2022 Theophilus Redwood Award from the Royal Society of Chemistry for her development and applications of native ambient mass spectrometry.

Chris Bunce's research has led to a clinical trial aiming to improve therapeutic outcomes in myelodysplastic syndrome, a group of blood cancers with a significant risk of transforming to acute myeloid leukaemia. Carolina Rezaval's work on understanding how fruit fly brains make decisions between feeding and mating has been covered by ~200 national and international newspapers and news websites.

Finally, our PhD students Kish Adoni, David McQuarrie and Matty Wright have won best talk/poster prizes at the Biosciences Graduate Research School Symposium and the Birmingham Centre for Genome Biology Symposium. You can find more highlights from our theme in this issue of *the Mole*.

Wellcome News

How does the brain change throughout the lifecourse of an organism? Why is sport good for the brain? why is isolation bad? How do we adapt to change? What causes the degenerative drive over time? Alicia Hidalgo has been awarded a £1.6 million Investigator Grant from the Wellcome Trust to study molecular switches between structural brain plasticity and degeneration. Alicia writes: "We want to investigate how experience modifies brain structure, whether this in turn modifies behaviour, and how behaviour as a source of experience can impact further on the brain. We will test the hypothesis that a molecular switch can modify the brain from experience-dependent structural plasticity to neurodegeneration. Using the fruit-fly *Drosophila* as a model organism, we want to discover the molecular mechanisms linking molecules to cells, neural circuits, neurites, synapses and behaviour, in order to uncover the fundamental principles of how the brain works, how it changes throughout life, and how to promote brain health. Our discoveries will reveal cellular and molecular mechanisms underpinning adaptation, learning and memory, neurodegeneration and the structural basis of mental health". She added "by the way, we are now recruiting, so get in touch if you are interested"

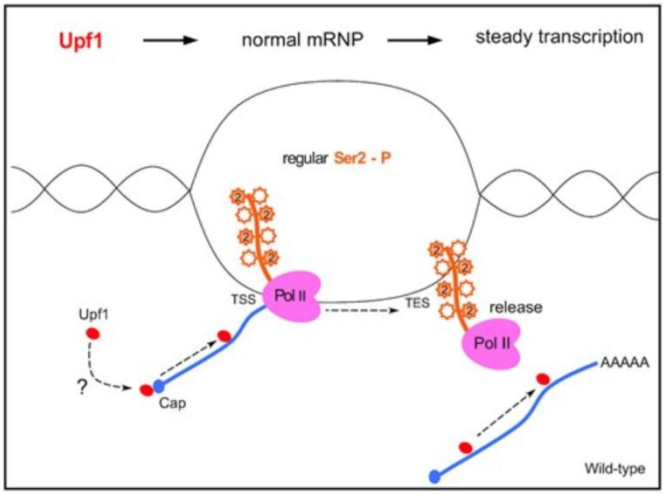
Check out the Structural and Molecular Cell Biology theme, including people and resources at :
https://www.birmingham.ac.uk/research/activity/structural-and-molecular-cell-biology/index.aspx

The tale behind the paper:

Genome-wide chromosomal association of Upf1 is linked to Pol II transcription in *Schizosaccharomyces pombe*

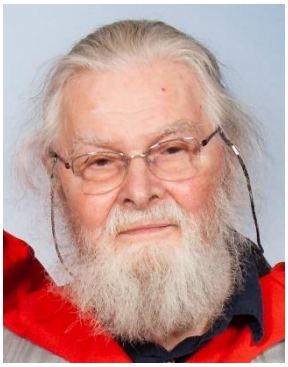
Sandip De, David M Edwards, Vibha Dwivedi, Jianming Wang, Wazeer Varsally, Hannah L Dixon, Anand K Singh, Precious O Owuamalam, Matthew T Wright, Reece P Summers, Md Nazmul Hossain, Emily M Price, Marcin W Wojewodzic, Francesco Falciani, Nikolas J Hodges, Marco Saponaro, Kayoko Tanaka, Claus M Azzalin, Peter Baumann, Daniel Hebenstreit, Saverio Brogna ✉
Author Notes

Nucleic Acids Research, Volume 50, Issue 1, 11 January 2022, Pages 350–367,
https://doi.org/10.1093/nar/gkab1249
Published: 20 December 2021 **Article history ▾**

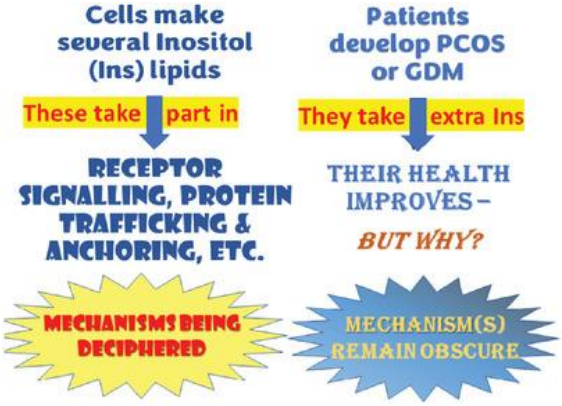


Saverio Brogna writes: *We present a set of data which demonstrate that Upf1 associates genome-wide with RNA polymerase II nascent transcripts in fission yeast. These data offer the first indication that by operating on the nascent transcript, Upf1 can directly control Pol II CTD phosphorylation and transcription. This confirms and expands what we recently reported in Drosophila (Singh et al.,2019, Elife. 8:e41444). This confirmation alone makes our manuscript significant as fission yeast is evolutionarily highly divergent from Drosophila and so the association of Upf1 with nascent mRNA is likely to be a universally conserved feature in eukaryotes.*

The editor adds: *The textbook view of transcription is that it is done by a DNA-dependent RNA polymerase (such as Pol II) that simply copies one strand of template DNA into RNA, that is then released for future use, and that most regulatory factors interact with the template DNA just as transcription starts. Saverio's findings show that the emerging RNA is also a target for regulatory proteins that bind to the emerging transcript and modulate the activity of the RNA polymerase. Similar findings have been found in the bacterial world.*



Emeritus Professor Bob Michell updates us on the School's longest-running molecular saga: In the early 1960s, the late J N (Tim) Hawthorne led one of the few research groups that studied inositol phospholipids – and I was the first to occupy one of his lab's smart new benches when we moved into the 5th floor of the Biology Tower in 1963. Since then, inositol lipids and phosphates have amassed many roles in eukaryote cells; e.g. in signalling, organelle recognition, intracellular protein trafficking and cell surface (glycol)protein anchoring. The research group that I and several colleagues ran from 1970 until 2010, mostly in the Biosciences tower, helped to set this field on its way, initially by suggesting that receptor stimulation of phosphoinositide-specific phospholipases might be a signalling reaction that initiated intracellular Ca^{2+} mobilisation – and the mechanisms of this and several other functions of inositol lipids (left panel of the cartoon below) have been pretty well deciphered since the 1980s. I outlined this history, including some false trails that briefly diverted us, in a recent essay: https://doi.org/10.1002/bies.202200020. The essay (and the cartoon's right panel) also draw attention to an important unsolved problem. The health of people with some metabolic/endocrine maladies (including **P**olyCystic **O**varian **S**yndrome and **G**estational **D**iabetes **M**ellitus) improves if they eat extra inositol, which is a normal nutrient. This is at least partly because their tissues' deficient responses to insulin become more normal. But how does this happen? Despite the claims of a group of self-declared "experts" (EGOI), these beneficial effects of an extra dollop of inositol remain unexplained . . . . . and will remain so until someone comes up with a decent and testable hypothesis.



More awards

Professor of Drug Discovery, Ruth Roberts, has recently received two prestigious international awards. One is the Academy of Toxicological Sciences' Mildred S. Christian Career Achievement Award that is conferred upon an Academy Fellow who has demonstrated a lasting impact on toxicological sciences. The other is "Paper of the Year" from the Drug Discovery Toxicology Specialty Section.

OXFORD SOT Society of Toxicology academic.oup.com/toxsci Tox Spotlight

TOXICOLOGICAL SCIENCES, 183(1), 2021, 105–116
doi: 10.1093/toxsci/kfab073
Advance Access Publication Date: 12 June 2021
Research Article

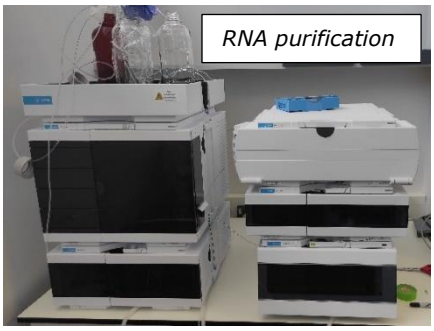
Species-Specific Urothelial Toxicity With an Anti-HIV Noncatalytic Site Integrase Inhibitor (NCINI) Is Related to Unusual pH-Dependent Physicochemical Changes

Ruth A. Roberts,*,†,1 Richard A. Campbell,‡ Phumzile Sikakana,* Claire Sadler,* Mark Osier,§,2 Yili Xu,¶ Joy Y. Feng,¶ Michael Mitchell,‖ Roman Sakowicz,¶ Anne Chester,§ Eric Paoli,‖,3 Jianhong Wang,**,4 and Leigh Ann Burns-Naas§,5

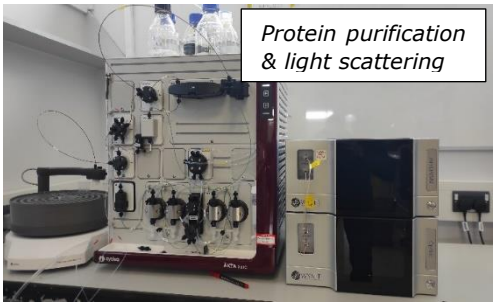
In addition, Ruth's Company, ApconiX, which specialises in understanding drug safety and reducing safety risks, received a Queen's Award For Enterprise in April. Information about ApconiX can be found at: https://www.apconix.com/

Technology Platforms for Structural Biology in Biosciences

High field NMR

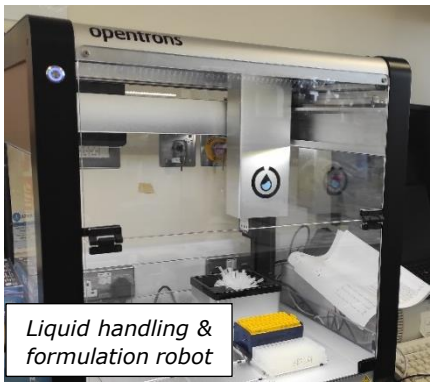


RNA purification

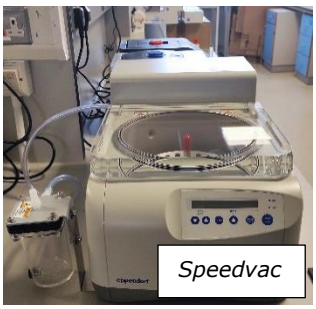


Protein purification & light scattering

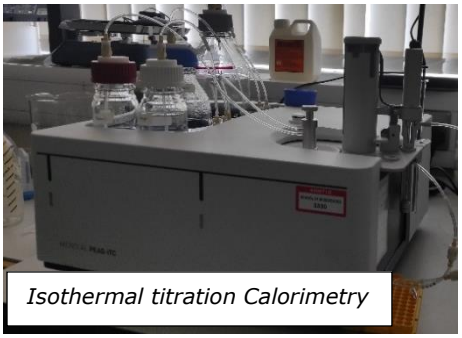
Aneika Leney takes us on a tour of the kit available for structural biology research: a single picture cannot dictate how an object moves. So, when it comes to understanding how proteins and DNA/RNA move and interact with one another we need to use lots of different technology that can paint multiple pictures. It is only when this information is combined together that we can truly say how something works. Here are a few pictures of some of the equipment we work on within the theme showcasing the range of measurements we take and thus the questions we collectively answer. The technology we work on includes techniques such as CD, NMR, ITC, DLS, SEC-MALS, X-ray crystallography, and (most importantly – though I maybe biased!) mass spectrometry.



Liquid handling & formulation robot

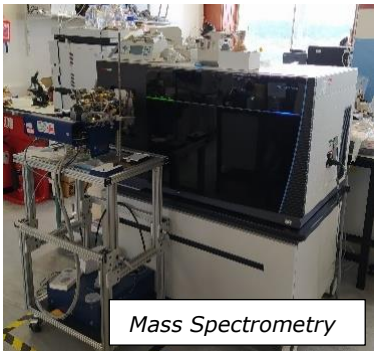


Speedvac

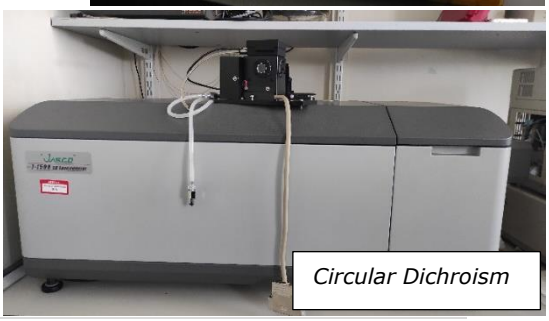


Isothermal titration Calorimetry

Labs on Tower level 8



Mass Spectrometry



Circular Dichroism

Fascinating spectroscopy: Teresa Carlomagno writes in praise of NMR

The staff at HWB-NMR (Henry Wellcome Building for Biomolecular NMR) and my own research group are great fans of Nuclear Magnetic Resonance spectroscopy (NMR). We hope you too will become a fan very soon. NMR can do a lot of things for you. It can solve structures of proteins, nucleic acids and their complexes. I know … X-ray crystallography and electron microscopy (EM) can do this too… well, not always, right! NMR can study particles that are only partially structured, and contain either disordered or highly dynamic elements. Likewise, NMR can study complexes that are only transiently formed, and is virtually the only structural biology technique able to do this. Why do we need to look at flexible, disordered or transiently interacting molecules? Because life is about moving, and chemistry happens while molecules transition from one state to another, as well as binding and dissociating from different partners. Some molecules, like certain RNAs, do not even have "a structure" but, rather, adopt one depending on the environment or their binding partners. And now, I know what you might be thinking ….my protein is so big, and NMR can only look at molecules as "small" as 30 kiloDaltons. Wrong!! NMR has evolved a lot in the past 20 years, and we can now obtain NMR spectra of particles of bigger proteins and even complexes. In conclusion, talk to us and try it out! We have the best machines in the UK and lots of expertise.

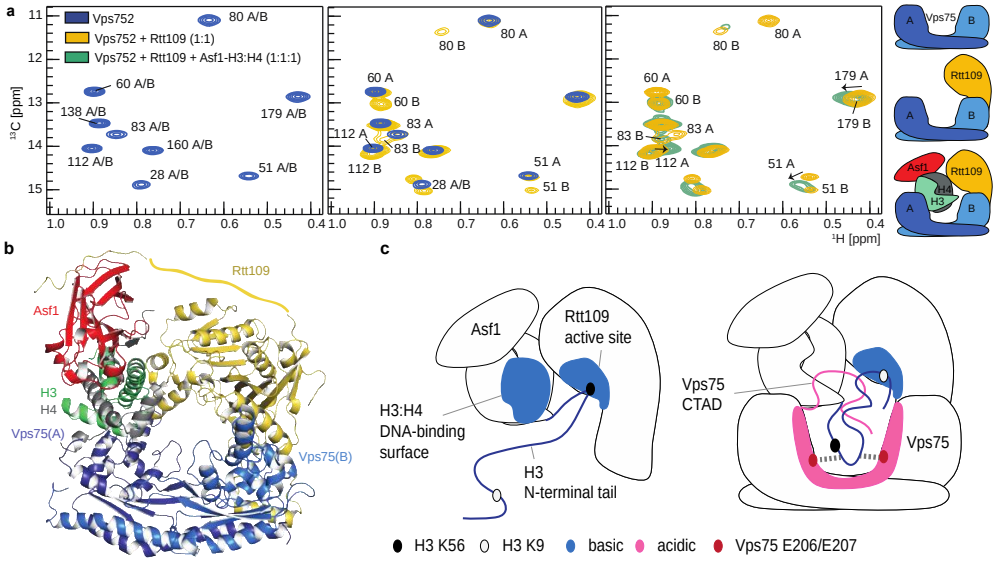


***FIGURE EXPLANATION*: NMR study of 160-kDa multi component histone acetylation complex: fuzzy electrostatic interactions promote acetylation of H3 N-terminal lysines in the catalytic Asf1–H3:H4–Rtt109–Vps75$_2$ complex. (a)** Overlay of ^{1}H-^{13}C HMQC spectra of ILV methyl-labeled Vps75$_2$ in isolation, with Rtt109 and in complex with Asf1–H3:H4–Rtt109–Vps75$_2$. (**b**) The Asf1–H3:H4–Rtt109–Vps75$_2$ complex adopts a doughnut-like shape with a central cavity of ~25 Å width. The disordered Vps75 and H3 tails are not shown. **(c)** Left, the mechanism of chaperoning H3-K56 to the Rtt109 catalytic pocket is based on well-known enzyme-recruitment and substrate-presentation processes. Right, the mechanism by which Vps75 chaperones lysine residues in the H3 tail to the Rtt109 catalytic pocket differs from the canonical substrate-presentation process and includes confinement of the H3 tail in the proximity of the Rtt109 catalytic pocket via fuzzy electrostatic interactions occurring between two disordered protein domains, the Vps75 CTAD and the H3 tail.

The Mini-Safe Mole

Andy Lovering writes: firstly, it will not have gone unnoticed that we are seeing a spike in COVID cases over the past few weeks – please remain aware, inclusive of any messages indicating a change in guidelines; at present we are still working under a masks optional scenario. Those of you taking advantage of the summer "break" (I choose those words carefully given the tasks that await some of us) to holiday and attend conferences may wish to test on arrival and return. I'm afraid we have no reserve of lateral flow tests but we do have a large stash of masks should any of you require some. Secondly, we thought it might be informative to send out a more descriptive email outlining the roles within the H&S committee (and who to contact about particular issues), and also how you can make your voice heard on matters relating to safe working. This will find its way to you soon but, in the meantime, enjoy the post-exam period. Best, on behalf of the committee, Andy **STAY SAFE!**

Robin May has been appointed as the next Gresham Professor of Physic

At *the Mole* Editor's request, I've been asked to explain my recent appointment as the next Gresham Professor of Physic*.

At 425 years young, Gresham College is the oldest higher education institution in London. It was founded by Sir Thomas Gresham (right), who was clearly a smart chap, since he managed to serve as financial adviser to both Queen Mary I and Elizabeth I, despite them being on opposite sides of the 16th-century religious divide.

The college provides free public lectures for all. There were originally seven Gresham Professorships, including the Professor of Physic (i.e. medicine – not to be confused with "Physics", about which I know embarrassingly little!), with the first professors providing a weekly lecture for the princely sum of £50 per year.

The list of Gresham professorial alumni is eye-watering, to say the least; Robert Hooke is my personal favourite. Even more daunting, though, is that I will be taking over the Gresham position from the legendary Sir Chris Whitty.....talk about having large shoes to fill!

Gresham Professors, past and present.

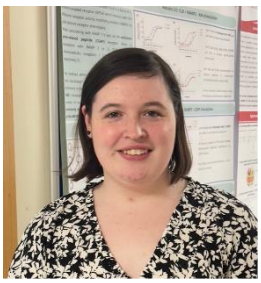
(Note that I will be adopting the more modern hairstyle of Professor Whitty, rather than the traditional one being demonstrated by Professor Hooke, when I take up the role.)

My inaugural lecture series ("*All the World's a Microbe"*) kicks off on the 6th October…so if you happen to be in London, and want to come along, or if you just fancy spotting how many mistakes I make, by scrutinising the online version afterwards, you can find out more here: www.gresham.ac.uk

**For the avoidance of any doubt, Gresham Professorships are held alongside "real" professorships, so I'm most definitely not leaving UoB!*

Comings and goings

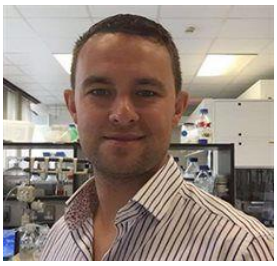
Welcome to Courtnie McDonnell-Price who writes: I am currently an Apprentice Administration Officer for the School of Biosciences. I am 24 years old, and never would I have ever believed that I would find myself in the historic surroundings of the University of Birmingham.



A few years ago I was caring for my Mom, who was on dialysis because she had an impaired kidney. Then, thankfully, the hospital found her a kidney donor. However, this meant my caring days were over, but I didn't really know what I wanted to do. I had recently seen the movie *Working Girl*, and from this, there was a part of me that desired working in admin in an office. I absolutely love my movies, especially Disney and rom-coms. Oh, and also I am a huge fan of the 1990's sitcom, Friends. If you wish to sing the theme tune (*I'll be there for you*), at this point, then please do. I don't know if it was a lack of confidence, but I thought that the world of admin was an area of work I would never be able to be a part of. I managed to get a six months admin placement in an organisation that trained unemployed people looking for work. The six months went quickly, and it came to an end. It had given me some experience, but more importantly it gave me the hunger to carry on in the world of administration.

One day, out of the blue, I spotted an online vacancy for the apprenticeship role for this current job, at the University. I had passed the University a number of times in the car going to my grandad's. As you all know, the University buildings are quite prominent in the area, almost as if they are the beating heart of the South of Birmingham. The idea of working in a place like this seemed almost like an impossible dream. Part of that dream came true when I was lucky enough to secure an interview. At first, I was doubtful that could I even come across well in the interview enough to get the job. Then my mind went back to the *Working Girl* movie. If you have watched the film (if not, why not?) you will remember that the film is basically about a woman who is determined to succeed in order to better herself, and that gave me the spark of determination I needed. I was determined to go into the interview room and give my best performance. And here I am, I got the job. I can't even begin to tell you how happy I am to be working here. I know it is going to be a lot of hard work, and I am prepared to give it everything I have got whilst I am here. Via this job I hope to gain a better understanding of the area of work I am in, as well as develop and further my own abilities, especially my confidence and social skills. Long term, I would like to stay working within this area of work as well as working in the University, but, for the next 15 months, I am going to take in every single second, as well as work hard to get my Level 3 in Business Administration. Wish me luck!

Farewell to Luke Alderwick: Luke recently left to take up a position with Charles River Laboratories, having been a Lecturer in Molecular Microbiology since 2010. Before that, Luke was an undergraduate in the School and a PhD student with Del Besra. Luke will be sorely missed, not only because of his expertise in high-throughput screening and drug development, but also because of his footballing skills and contributions to staff-student liaison.



BGRS2022

The annual Biosciences Graduate Research School (BGRS) Symposium is an event that takes place in May each year. This symposium is always a great chance for postgraduate Biosciences students to share their interesting research with other students and staff, and this year's symposium was amazing.

Organiser Naser Alshamsi writes: There are several activities that go on during the symposium, organised by the committee members. First, the 3rd and 4th year PGR students gave talks for ten minutes followed by five minutes of questions from the audience. The 2nd year PGR students prepared posters for the research they are working on. The 1st year PGR students were the judges to evaluate the talks and posters given by the students. This is a great opportunity for 1st year PGR student to have a feeling of what goes on in preparing talks and posters, and how to present them. Second, the morning session of talks and posters was followed by a great keynote from Professor Tracy Palmer where she spoke about her early life and the many adventures she went through to become an internationally-acclaimed molecular microbiologist. Following the keynote, we went down to the Undercroft to enjoy a great selection of food and beverages provided to everyone for free, by the help of our generous funders. Students and staff members had the chance to chat with our funders about the fancy and new equipment that we might use in our research labs. After lunch, we continued our afternoon session of talks and posters. We concluded the BGRS 2022 by thanking everyone for participating and their enthusiasm. Also, we gave prizes for the best talk and best poster of the symposium and announced the next BGRS in 2023.

The full list of the committee: Mohana Arthik, Naser Alshamsi, Clare Thomas, Ksenia Klimova, Hannah Dixon, David McQuarrie, Yuying Du, Deepanshu Singh, Rhiannon Moss, Anna Lassota & Yuan Tian. ***The editor adds***: Well done all of you for organising a brilliant event!

The BioCup: Biology wins the BioCup!

The Biology team swept to victory against Biochemistry in the inaugural School of Biosciences BioCup competition. Their success was sealed with a devastating 7-1 victory in the final showdown event of the season - the football match-up.

The BioCup is a new community-building initiative and the brainchild of BioSoc President, Tommy Siddall, and Mike Tomlinson. Biochemistry and Biology battle it out over the year, in a friendly rivalry – think Hogwart's House Cup! Points are awarded after joint student/staff events like the BioCup bake-off, sporting competitions and pub quizzes.

Biology football team captain Callum Perrett with the 'Luke Alderwick Trophy', named in honour of Luke's long history with our School and University football.

The Mole's chief football correspondent, Gary Vinegar writes: *The soccer finale took place on the afternoon of Friday June 10th. An enthusiastic crowd of students and staff watched the Biochemistry team take command early on. Lecturer and former University player, Luke Alderwick rolled back the years to drive his team forward and test the Biology keeper. But Biology took the lead against the run of play with a penalty. A second goal quickly followed and a stunned Biochemistry were suddenly in disarray. Biology captain Callum Perrett and research fellow Manuel Banzhaf wrestled control of the midfield. Their dominance never faltered for the rest of the game. Perhaps unsurprisingly, the likes of Luke, Manuel, Sam Reyna and Mike Tomlinson failed to score. Instead, it was the students who bagged the goals. Elan Southwick (3), Paul Finley, Callum Perrett, Joe Rock and Callum Smith scored for Biology. Harvir Dhesi's "screamer" ended up as merely a consolation for Biochemistry.*

The BioCup was awarded to Biology for their 40 to 30 point overall victory. Celebrations in the Biosciences Quad went on late into the evening, with well over 100 students and staff enjoying a Papa John's pizza party. Huge thanks go to the College for funding the BioCup via their community-building fund, to BioSoc for their integral and enthusiastic involvement, and to Leah Thompson for expert professional services support and organisation throughout the year. Community is definitely being built!

Biology team members Ella McGrath, Alex Paddock & Leanne Taylor-Smith showing off their BioCup award. The BioCup itself was made by highly acclaimed potter Neil Hotchin.

And remember, another sporting event:

Chris Ellison from External Relations writes: The Birmingham 2022 Commonwealth Games will be taking place across Birmingham and the West Midlands from 28th July – 8th August. As an Official University Partner, the host of the Games Principal Athletes' Village, the Official Competition Venue for Hockey and Squash, and a training venue for Swimming and Athletics, we hope you're as excited as we are, to welcome such a major sporting event to our region and particularly to our campus. The Commonwealth Games brings a number of benefits to the University community, including employment opportunities for students, development opportunities for staff, and opportunities to showcase the University's research to new audiences. There's also a programme of cultural events taking place across the campus covering everything from music to botany. In the run-up to and during the Games, we will continue to see some temporary changes to our campus and the surrounding areas, as requested by the Games Organising Committee, to facilitate the operational and security requirements of the Games. We appreciate that our campus will be busier than usual during this period. To ensure you are fully aware of these temporary changes, please visit our "Birmingham 2022 Commonwealth Games" intranet pages. You can also access up-to-date information during the Games directly from Birmingham 2022 using their journey planner.

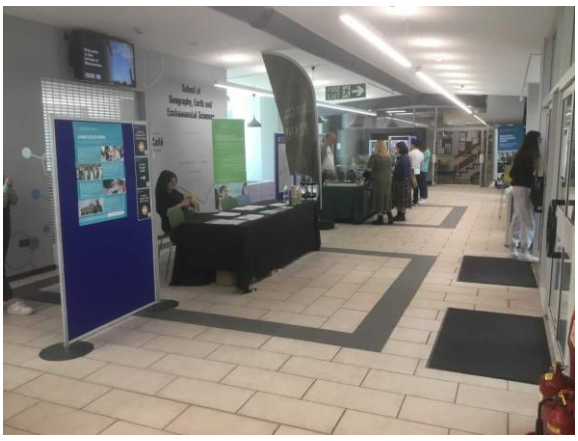
Round and about

Below: friends, colleagues and former students met up recently at the Edgbaston Park Hotel to celebrate Emeritus Professor Jeff Cole's significant birthday

Above and below: Alicia Hidalgo gave her Inaugural Lecture on Wednesday 23rd June, to mark her appointment as Professor of Neurogenetics.

Predatory Conferences: a cautionary tale

The Editor writes: the March issue of the Mole carried a piece about predatory publishing, something quite a few staff and students hadn't come across before. This time, we talk about the sister industry of predatory conferences, which, broadly speaking, are conferences designed to make money without any regard to scientific quality. A Biosciences staff member told me this story: *"Back in June 2021, I was invited to a 3-day conference in Copenhagen, scheduled for June 2022. It looked good and a couple of Japanese whom I knew were listed on the Conference website, so I said I would attend, and so my mugshot appeared, along with the Japanese, on the website. Fortunately, I didn't pay anything, despite the "earlybird" offer, and it wasn't till January 2022 that the organisers contacted me again to "remind" me about payment. It was at this point that I contacted my Japanese friends, who told me that their photos had been "borrowed" and that they had never intended to attend, and so I decided that I too was "out", and contacted the organisers to withdraw. A few weeks ago, I was approached by an Australian researcher doing some investigation into predatory conferences, and my conversation with him convinced me that I had had a lucky escape. I note that the conference website still has my mugshot, but the programme was reduced to a 1-day online only event"*. Having heard this story, my feeling is that everyone in the School needs to beware. There are a number of giveaways for rogue Conferences, but the best strategy is to stick with meetings organised by learned societies such as the *Biochemical Society*, or reputable conference agencies, such as *Gordon Conferences*.



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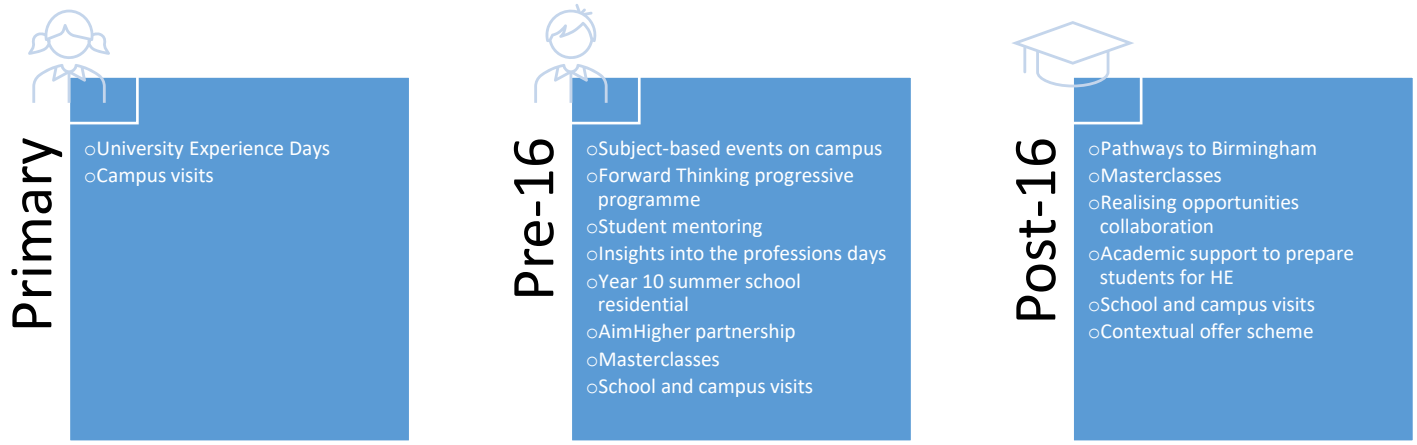
OPEN DAYS: the new round started on 24th and 25th July, when we welcomed hundreds of prospective undergrads and their families. More days are planned for Autumn, starting with Saturday 10th Sept.

The work of the University of Birmingham Outreach Team

The editor writes*: a key factor in the health of the School is the number and quality of our undergraduate intake. The University organises many activities to support recruitment, so I asked the Outreach team to outline their activities, in the hope that this will spur staff to engage with them.*

The Outreach team at the University of Birmingham is part of External Relations, and sits within a wider Student Recruitment and Marketing team. Our team works with students in state schools and provides them with information, advice and guidance to help support their interest in, and entry into, higher education. In a typical year, the Outreach team works with nearly 25,000 students either by hosting these students on-campus or visiting the students in their schools. A list of our activities with schools and colleges is given below:



We rely on academics to support our programmes by delivering taster sessions for students across a range of subject areas. These sessions are often required as part of a larger scale event or a campus visit for students. We regularly send requests through to different Colleges and Schools to help us with the various activities that we run, so if you're interested in getting involved, please look out for our emails.

Pathways to Birmingham (P2B) – post-16 programme

Pathways to Birmingham is the name given to a suite of programmes to support access to the University of Birmingham for students from groups underrepresented within higher education.

Students need to meet eligibility criteria to take part in P2B. By completing a P2B programme, students can receive an alternate offer typically of two grades below the standard offer, and become eligible to receive up to £3500 per year in additional funding. Details on the different P2B programmes can be found on our website. The University reports on the number of entrants that come through P2B each year to the OfS, and this is one of the targets set out in our institutional Access and Participation Plan (APP). In the most recent admissions cycle 794 P2B students entered the University representing around 12% of the total intake. All P2B students who begin studying at the University of Birmingham are automatically enrolled into the Birmingham Scholar programme of activity. The programme is designed to support students from under-represented backgrounds, particularly those identified in the University's Access and Participation Plan, to get the most out of their studies here at the University of Birmingham.

If you'd like to support any of our programmes or want to learn more, please email us at outreach@contacts.bham.ac.uk. Thank you for your ongoing support of our work.

THE PERCAT PAGE

Postdoctoral and Early Researcher Career Development and Training: updates for Biosciences

What is PERCAT? The PERCAT programme within the Colleges of Engineering and Physical Sciences and Life and Environmental Sciences provides a gateway to resources and support available for career development and training for postdoctoral and early career researchers. PERCAT is run by postdocs for postdocs and provides a programme of events and activities for staff in the two Colleges.

See: https://www.birmingham.ac.uk/university/colleges/les/percat/index.aspx

Your Biosciences PERCAT Rep: Santosh Kumar Santosh joined Biosciences as a Newton International Fellow, and continued as a BBSRC Research Fellow. His main interest is in developing a zebrafish infection model to study tuberculosis disease. Santosh is an active member of the PERCAT steering committee and various sub committees and is also on the editorial board of *the Mole*.

Early Career Funding Opportunities

Future of UK Treescapes fellowship scheme

Award range: £3,000,000 - £5,000,000 - Closing date- 29 July 2022

Apply for funding for knowledge exchange and learning on a topic related to the Future of UK Treescapes programme. You will work on a topic related to the remit of the Future of UK Treescapes programme. You must be from an eligible UK research organisation. This funding opportunity is being run by the Future of UK Treescapes programme on behalf of NERC.

For more information: https://www.ukri.org/opportunity/future-of-uk-treescapes-fellowship-scheme/

UK in a Changing Europe Senior Fellowships: round four

Maximum award: £500,000 - no closing date

Apply for funding to analyse the UK's changing geopolitical landscape. Focus areas could include UK-EU relations, and the evolving security and economic environment. ESRC expects to support between eight and ten senior fellows through this opportunity.

More information at: https://www.ukri.org/opportunity/uk-in-a-changing-europe-senior-fellowships-round-four/

Turing AI World-Leading Researcher Fellowships: round two

Maximum award: £50,000 – No Closing date

Apply for funding to undertake world-leading research to advance the field of artificial intelligence (AI). This scheme is aimed at established researchers, based at an organisation eligible for UK Research and Innovation funding.

More information at: https://www.ukri.org/opportunity/turing-ai-world-leading-researcher-fellowships-round-two/

For further information on any PERCAT matter, contact Anthea Hall: a.hall@bham.ac.uk, or your Rep.

Be Better
Steven Beech Foundation

The Steven Beech *Be Better* Award

Through the generosity of Steven's family and friends, the School can offer two summer internships for Biosciences undergraduate students to obtain research lab experience through a project in any of the School's research groups (although projects supervised by early career researchers will get priority). The funds will cover £250 per week stipend to the student for a maximum of six weeks. Please contact Klaus Futterer if you are interested to apply.

The editor adds: The foundation was set up in memory of Steven, who graduated from Biosciences in 2001, following his untimely death in 2018.

The Back Page

Keep in touch at regular Biosciences events:

Morning coffee & cake in the Undercroft: monthly from 10-11 am. Next sessions: Tue 5th July & Thur 11 August

Biosciences Research Club: on ice for the moment

IMI Lunchtime seminars: most Tuesdays at 1 pm.

Biosciences Lunchtime seminars: many Thursdays at 1 pm.

Who's Who in the School management team:

Head of School: Rob Jackson (also BIFoR representative)
Deputy Head of School: Klaus Futterer
Deputy Head of School: Helen Cooper
Head of Operations: Claire Cooper
Head of Education: Julia Myatt
Deputy Head of Education: Scott White
Head of Research: Chris Bunce
Health and Safety Lead: Andy Lovering
EDI/Athena Swan Lead: Eleanor Cull/Mary Blanchard
Early Career: Florian Busch
Head of Admissions & Communications: Mike Tomlinson
Head of Internationalisation: Stephen Minchin
Head of PGR: David Grainger
PGT Coordinator: Jan Kreft
Head of Knowledge Transfer: Tim Dafforn
Student Experience: Jessica Adams

Future issues of the Mole

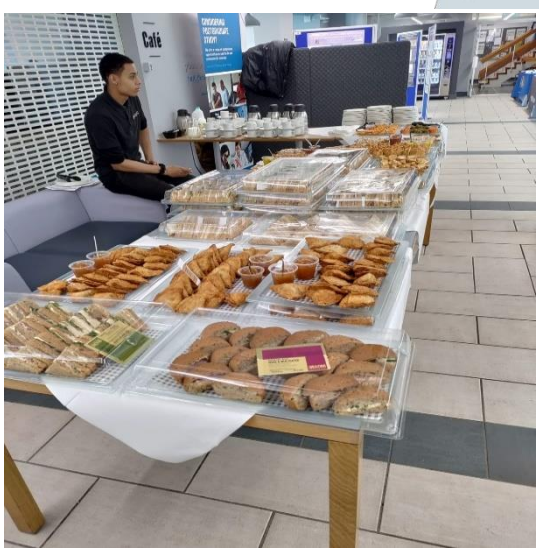
- *Autumn 2022: focus on Biosystems & Environmental Change*
- *End of 2022: focus on Education*

follow our social media

Keep up to date with what's going on in our School of Biosciences!

@UoBbiosciences

@uob_bio



College Staff BBQ and Thankyou Event on Wednesday 13th July 12-2pm in the Undercroft/Quad of the Biosciences building

The Biosciences Graduation Ceremony will be on Friday 15th July at 5:30 pm. There will be an informal gathering with graduands & families from 2:30-3:30 pm, with prizegiving at 3 pm, so please mark this in yor diaries.

Revival of the caption competition, after a break: what thoughts are racing through the mind of this purveyor of bounty? Please send your suggestions to the Editor.

Got a story for us? Want us to "hold the front page"?

contact Steve Busby: s.j.w.busby@bham.ac.uk