

Bradford ChemBio

What's been going on in our school for the past three months...
December 2018-February 2019



Welcome!

Welcome from your Newsletter Editors...

Welcome to the new edition of our newsletter, covering all the exciting developments and achievements from our staff and students between December 2018 and February 2019. We're introducing a new feature in this edition – 'In Focus...' – which highlights the important work that some of our staff in different roles do. We're delighted that **Dr Gillian Westgate** agreed to be our inaugural author, and on page 2 she explains what her role as Business Development Manager entails.

We've had a successful time for research over the last quarter, most notably with **Dr Gisela Helfer** being awarded a highly competitive Academy of Medical Sciences Springboard Award. This scheme is open to researchers who are within the first three years of their first independent post and is designed to provide mentorship as well funds to employ a post-doctoral researcher. This is the second year in a row that the University of Bradford has been awarded funding through the scheme, and is a powerful indicator of how well our institution and it's researchers are perceived by the wider research community.

The School's Outreach activities are particularly evident this quarter – **Dr Nicolas Barry** and **Dr Will Martin** continue their successful partnership with a local school, and **Dr Rianne Lord** took part in the VC delegation to Pakistan to build international ties. Outreach is essential for the continued success of our School, so please keep letting us know of any outreach activities you are taking part in.

Finally, we'd like to highlight the impact that **Dr Jim Boyne** had during his time with us. Jim recently left the University to take up a position of Reader at the University of Huddersfield. He will be sorely missed – not only did Jim head a successful research group on breast cancer, he was the Director of Postgraduate Research for the Faculty of Life Sciences and revolutionised the teaching of Biology of Disease for the final year BSc Biomedical Science students. He regularly won plaudits from the students for his accessible, innovative teaching and we're sure we speak on behalf of all students and staff when we offer our best wishes for the future.



Dr Kirsten Riches-Suman and Dr Andrew Tedder

Athena SWAN Charter

The EDOC has started to analyse the data from the recent staff survey and we have fed back the main findings to the Executive Committee. Staff have commented that internal communication in the School is still not good. The newly implemented 'The Week in ChemBio' bulletin should help to foster communication. Please remember to send any news items to **Jennifer Smith** (j.smith34@bradford.ac.uk) by midday on Friday, so that **Prof. Steve Rimmer** can include it in the weekly bulletin. To increase transparency, we will make minutes of all committees accessible to all staff. Please bear with us, while we are setting this up. Furthermore, to move towards a transparent and proactive promotion system, we are aiming to implement an annual CV review system. As discussed in the last staff meeting, please send any suggestions regarding the format of this to Steve Rimmer.

#WomenInScience Day

11th February 2019 marked **Women and Girls in Science Day**. Thanks to the amazing efforts of **Dr Anna Snelling**, we celebrated the day in style with pics of our 'happy project students' reaching about 75000 twitter accounts – see the article on page 3 for some examples. Follow us on twitter @UoBBio and @UoBChem to find out what we are up to.

#IWD@UoB2019 Speed Networking

To celebrate International Women's Day 2019, the University's Equality and Diversity team has organised a networking event on Mon 11th of March 2019. The networking event will allow senior colleagues to share their experiences and challenges and provide advice in an informal setting. It is free and open to staff and students and promises to be a fun afternoon with lots of opportunities for informal chats with colleagues across Faculties.

For more information and registration, please follow the link: <https://www.eventbrite.co.uk/e/iwduob2019-speed-networking-event-for-international-womens-day-tickets-57417717940>

Athena SWAN seminar

The next Athena SWAN seminar will take place on the 3rd of April at 12pm in Richmond H33. We have invited **Prof Lynda Williams** from the University of Aberdeen who will give us insights into her career in nutrition research. Lynda is a world-leading neuroendocrinologist investigating the hormone-nutrient interactions in energy balance. She is an excellent speaker and I am sure that you will all find her seminar very informative and entertaining. We are organising a workshop following the seminar, more details to follow in due course. Hope to see you all there!

As always, if you have any comments or suggestions, please get in touch.

Dr Gisela Helfer, Chair of Equality, Diversity and Opportunities Committee

Business Development Manager

Dr Gillian Westgate and Dr Jason Jones are the joint business development managers for the Faculty of Life Sciences. Gill is based here in the department within the **Centre for Skin Sciences** and here she describes to us what being a business development manager involves and what she does on a day to day basis.

"I have been fortunate to work at the interface between science and business all throughout my career. This means that I can understand the science and also how to translate it to the needs of industry. I joined the University in 2009 and my role is to identify and secure a regular stream of research funding from industry and to help deliver the projects. I don't do this alone!! I work closely with academics to help them match their research strengths to the needs of industry, translating their science into research proposals with budget, milestones and deliverables. My background is in biochemistry and cell biology, which for the most part, has been linked with skin and hair research.



On a daily basis I could be on the phone or email negotiating with a new company; liaising between company, academic and R&I on contracts; writing a new project timetable with milestones and deliverables; discussing IP; generating marketing materials and web-content; using PR and social media for sharing news updates; monitoring project progress. Recent activities have included discussions with **Refaat Hamed** on identifying business opportunities for new enzyme routes to degradation of plastics; helping **Tom Swift** with projects building the scientific base for a new skin adhesive silicone; working with **Krzysztof Poterłowicz** generating new insights from data mining genomic data and discussions with **Mohammed El Tanini** on RanGTP as a target for cancer treatment and diagnostics. I am very happy to have a chat with any member of staff wishing to develop a portfolio of industry-focused projects. If you have not already spoken to me, please just get in touch.

My career started in industry (Unilever Research) where I worked for over 20 years in research labs on skin and hair projects and latterly more closely with the Unilever businesses groups (our internal funders) in personal care products and laundry innovation. One of the most enjoyable parts of my Unilever career was to work in multi-functional teams developing new global hair care brands where I contributed my own hair science knowledge, whilst picking up valuable experience in marketing, formulation and brand development. In my job in Unilever, I had to place projects with Universities and also make sure they delivered on the contract, so I spent a lot of time working with some of the UK's top scientists, including here in Bradford. So I understand the business perspective very well and use this to help build trust and ensure technical language and other barriers do not get in the way of a fruitful relationship.

One challenge in my role is to manage the expectations of companies. Establishing scientific relationships and projects is the easy part. Converting these into legal contractual ones requires patience and resilience to manage the lengthy timescales. So I do a lot of communicating! I also find it is very important to maintain close links with the project team throughout the project to avoid drift from the agreed (contractual) aims or to make sure the company understands why changes are needed.

One of the most enjoyable parts of my current job is working in a busy University environment, amongst (and sometimes teaching) young people and working with academic staff of the highest calibre. I have a role on the Skin Sciences Masters programme delivering a module on Innovation, which the students seem to really enjoy – especially their business project. I am also involved with managing REF impact activities and sit on the strategy groups in ICT and CSS. In 2017 I helped establish and Chair the UK's first **Cosmetic Cluster** – an industry focused organisation determined to develop and share the skills and training needed for employees and employers in this sector. Being based locally in the region, my role is to provide links between the Cluster companies and the University.

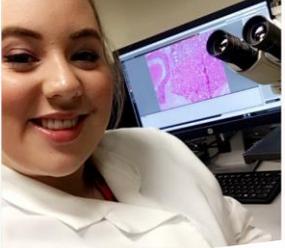
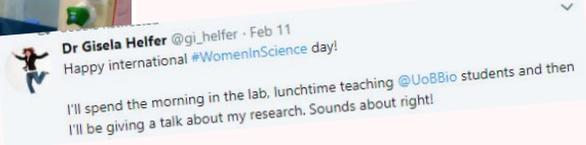
What else do I do? I live in Bedfordshire so I am one of a growing number of distance commuters for work and who stay in a B&B in the week. I am not employed full time at Bradford, so I have time to do some independent consultancy work, lecturing on hair science and also am involved in charities helping raise awareness of hair loss. I have been closely involved in the **European Hair Research Society** for many years and was Secretary then President from 2008-2014. Being involved with the organisation of events is a great experience and my role has been – you guessed it – working with companies to obtain sponsorship!

And when I am not doing all that - you will find me on the golf course!"

Women In Science Day

February has seen lots of activity on the Biomed Twitter account (@UoBBio) with the month closing at an estimated 420,000 'tweet reads'. Photos of our female Yr3 project students got re-tweeted to over 95,000 twitter accounts on the 11th February 2019 - International #WomenInScience day. There was good pick-up on what our Project students were up to from some of the science societies, including the Royal Society of Biology, the IBMS, and the Society for Applied Microbiology. We also had engagement from people as far apart as Alabama & Zimbabwe - so our female students have certainly gone 'A to Z'!

We encourage all students to follow the School Twitter accounts @UoBBio and @UoBChem - it's a good way to see what staff and students are up to, as well as getting early alerts about scientific breaking news, events and job opportunities.



Academy of Medical Sciences Springboard



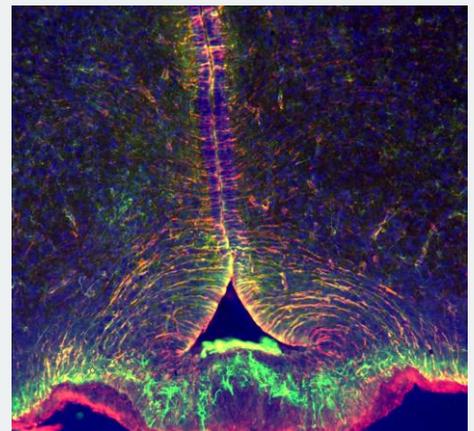
Dr Gisela Helfer

Dr **Gisela Helfer** has been awarded a prestigious grant from the **Academy of Medical Sciences** for the 2018 Springboard Round. The scheme is targeted at those who are in the early stages of their first independent research position and besides offering a £100,000 funding package over two years to help launch their career, it also gives access to a professional development programme, including a mentoring and leadership programme. This is only the second year that academics from the University of Bradford were eligible to apply for the scheme and in both years an award was made to the School of Chemistry and Biosciences!

Gisela will investigate the role of hypothalamic tanycytes in the circadian control of energy metabolism. Tanycytes are specialised glial cells in the hypothalamus of the brain that have been

shown to be important for appetite regulation. Tanycytes are unusual because they can dramatically change their shape and size to reach into the brain areas that control appetite and body weight. Gisela will investigate the daily rhythms of these cells and how deleting the rhythms with molecular tools influences appetite and body weight. This work will allow us to understand the mechanisms involved in the circadian control of body weight regulation and will give new insights to help us understand why disruption of the biological clock can lead to obesity and how this can be reversed.

Early career researchers please look out for the Springboard Round 5 which will open shortly.



Vimentin staining of tanycytes (in red) in the hypothalamus of a Sprague Dawley rat.

Travel Grants

Dr **Khaled Habas** was recently granted a bursary of €500 to attend the **hCOMET training course** on comet assay applications of various cell types in human biomonitoring in Riga, Latvia from Monday 29th January to Saturday 2nd February, 2019.

Dr **Gisela Helfer** has been awarded a Travel grant (£400) and a Childcare grant (£300) from the **British Society for Neuroscience** towards attending the BNA 2019 Festival of Neuroscience in April 2019 in Dublin.

Dr **Julie Thornton** has received a grant of £120,000 from an American nutraceutical company to verify that plant-based supplements that stimulate hair growth do not interfere with endocrine-dependent cancer treatment.

Internal Funding

Dr **Richard Hoskins** has returned to work as a temporary research technician for Dr **Tom Swift** following a successful **HEIF CCIP** internal bid in January to develop our commercial collaborations.

Dr **Refaat Hamed Farghal**, Dr **Tom Swift** & Dr Sankar Sivarajah (Faculty of Management) have recently appointed a new PhD student who will join us in April, following a successful **International Development Fund** internal bid in December. She will start in April.

Grant Panels

Dr **Gisela Helfer** has been invited to join the Review Panel for **Summer Studentship applications for The Physiological Society**. Dr Helfer has also been invited as a 2019 Reader for the **L'Oréal-UNESCO UK and Ireland For Women in Science Fellowship applications**. This is the second year in a row that Dr Helfer has been appointed as a Reader for this prestigious fellowship rounds.

NVBF 2018

In December 2018, Bradford played host to the **Northern Vascular Biology Forum** (NVBF) for the first time. The NVBF is a community of 14 universities across the north of England who are engaged in any aspect of cardiovascular disease. Organised by **Dr Kirsten Riches-Suman**, Dr Jacobo Elies, Dr Stacy-Paul Wilshaw, Dr Matt Hardy, Dr Talat Nasim (all School of Pharmacy) and Prof Tim Palmer (Hull-York Medical School), we were delighted to have over 100 delegates and, with 13 delegates, 4 posters and one speaker, vascular research from the University of Bradford was very well represented. We would like to thank our sponsors including the British Heart Foundation and the Biochemical Society, as well as a number of commercial sponsors.

This year's event will be held at Sheffield Hallam University in December 2019. For updates, please visit our website (<https://nvbfnews.wordpress.com/>) and follow us on Twitter (@NVBF_News).



Co-organisers **Dr Kirsten Riches-Suman**, Dr Jacobo Elies and Dr Stacy-Paul Wilshaw, along with the youngest conference delegate!

Pharmacology 2018

Prof Tim Palmer (Hull-York Medical School) presented the work of PhD student Florah Moshapa (supervised by **Dr Kirsten Riches-Suman**, Dr Jacobo Elies (School of Pharmacy) and Prof Tim Palmer) at the annual **Pharmacology** congress in London in December. Florah is in her final year and her work was well received by the audience, boding well for a high impact publication later this year.

RSC Biomaterials

María Azmanova, PhD student in the Barry group, presented the results of the first four months of her PhD during the RSC Biomaterials Chemistry Annual Conference which took place early January at the University of Liverpool.

Papers in Press...

Al Ayoub Y, Gopalan RC, **Najafzadeh M**, Mohammad MA, **Anderson D**, Paradkar A, Assi KH. **Development and evaluation of and microsuspension formulations of curcuminoids nanoemulsion for lung delivery with a novel approach to understanding the aerosol performance of nanoparticles.** *Int J Pharm.* 2019;25:557:254-263.

Anderson D, **Najafzadeh M**, Scally A, Jacob B, Griffith J, Chaha R, Linforth M, Soussaline M, Soussaline F. **Using a modified lymphocyte genome sensitivity (LGS) or tumour scan test to detect cancer at an early stage in each individual.** *Faseb Bioadvances* 2019;1:32-39

Banerjee SL, **Swift T**, **Hoskins R**, **Rimmer S**, Nikhil K. Singha J. **A muscle mimetic polyelectrolyte-nanoclay organic-inorganic hybrid hydrogel: Its 1 self-healing, shape-memory and actuation properties.** *Mater Chem-B.* 2019

Gao K, Guan X, Zeng L, Qian J, Zhu S, Deng Q, Zhong H, Pang S, Gao F, Wang J, Long Y, **Chang CY**, Liu H. **An increasing trend of neonatal invasive multidrug-resistant group B Streptococcus infections in southern china, 2011-2017.** *Infection and Drug Resistance* 2018;11:2561-2569

Haggag YA, Matchett KB, Falconer RA, Isreb M, Jones J, Faheem A, McCarron P, **El-Tanani M**. **Novel Ran-RCC1 inhibitory peptide-loaded nanoparticles have anti-cancer efficacy in vitro and in vivo.** *Cancers (Basel).* 2019;14;11(2). pii: E222

Helfer G, Nanou S, Wu QF, Kantamneni S. **A central role of the adipokine chemerin in energy balance regulation and neuroinflammation.** *Brain and Neuroscience Advances* 2019 (published abstract)

Sharma A, McCarron P, Matchett K, Hawthorne S, **El-Tanani M**. **Anti-invasive and anti-proliferative effects of shRNA-loaded poly(lactide-co-glycolide) nanoparticles following RAN silencing in MDA-MB231 breast cancer cells.** *Pharm Res.* 2018;17:36(2):26

Soldevila-Barreda JJ, Metzler-Nolte N. **Intracellular catalysis with selected metal complexes and metallic nanoparticles: Advances toward the development of catalytic metallodrugs.** *Chem Rev* 2019;119(2):829-86

Swift T, **Katsikogianni M**, **Hoskins R**, Teratarantorn P, Douglas I, MacNeil S, **Rimmer S**. **Highly-branched poly(N-isopropyl acrylamide) functionalised with pendant Nile red and chain end vancomycin for the detection of Gram-positive bacteria.** *Acta Biomater.* 2019

Publication Prize

Dr Anaïs Pitto-Barry has won a **Research Development Fund Publications Award** for the article "New Class of Hybrid Materials for Detection, Capture, and "On-Demand" Release of Carbon Monoxide" published in ACS Applied Materials and Interfaces in 2018 (<http://www.dx.doi.org/10.1021/acsami.8b01776>). The prize money will be used to attend conferences to disseminate the research in the Barry group on carbon monoxide-releasing molecules (CORMs).

PBSi2018

Dr Nicolas Barry and Dr Joan Soldevila-Barreda attended the **International Conference on Phosphorus, Boron and Silicon** (PBSi 2018) held in Barcelona, Spain in December 2018. Nicolas gave an oral presentation on the results from the group on the chemistry and biology of carborene-containing organometallic complexes.

More information about this annual conference can be found here: <https://premc.org/conferences/pbsi2018/>.



Dr Nicolas Barry

hCOMET Training Course

Dr Khaled Habas attended the **hCOMET training course** on comet assay applications of various cell types in human biomonitoring in Riga, Latvia in late January. It was exciting and useful meeting and Khaled met many colleagues working in the EU Comet in COST Action CA15132- hCOMET group.



Dr Khaled Habas (back centre) with his colleagues

In human biomonitoring, DNA damage has been studied primarily in isolated lymphocytes and shown to be a very promising biomarker for both exposure assessment and disease progression. However, the use of non-invasively collected samples (e.g. buccal cells and/or saliva) to assess DNA damage remains a less explored area. In susceptible individuals, this way of sampling would be very interesting, especially in follow-up studies. Therefore, modified protocols of the Comet assay have been under investigation for their use with non-invasively collected samples. Comparisons between various surrogate tissues, i.e. blood, buccal cells and saliva, were discussed.

Biomaterials Workshop

Dr Anaïs Pitto-Barry attended a workshop on biomaterials at Lancaster University in February. This workshop, a two-day event with participants from the UK and Russia, was sponsored by the **British Council Researcher Links**. She presented the latest work of the Barry group about CO-releasing molecules (CORMs).

Translate innovation Bootcamp

Dr Joan Soldevila-Barreda was awarded a place at the **Translate: Me - Innovation Bootcamp** organized by Translate, which aim is to "improve health and wealth in the Leeds City Region by translating ideas into new medical technologies" (<http://www.translate-medtech.ac.uk/>). The bootcamp was a four-day residential workshop in December 2018 designed to empower early career researchers to innovate more effectively and navigate the complexities of getting ideas developed, adopted, and spread. More information can be found on this webpage: <http://www.translate-medtech.ac.uk/news/translate-me-innovation-bootcamp-transforming-medtech-researchers/>

All the 20 researchers from the five Translate partner universities (Bradford, Huddersfield, Leeds, Leeds Beckett, and York) enjoyed sessions on various topics such as reverse brain-storming, copyright and other regulations. Joan's team, named "Blue Horizon" won the runner-up prize following a pitch in front of the Dragons' Den. All the story can be found on Twitter with the hashtag #translatebootcamp18



University of Bradford Envoy to India

In December 2018 5 lecturers from this school travelled to India to partake in, and present at, several international conferences and workshops. **Professor Stephen Rimmer, Dr Thomas Swift, Dr Beverly Stewart, Dr Chien-Yi Chang** and **Dr Amber Leckenby** all flew to Kharagpur where they hosted an **MRC funded symposium** on UK-India collaborations to combat antimicrobial resistance. This work highlighted the recent Wellcome Trust, MRC and innovate work of Professor Rimmer and was designed to invite future international collaborations between our two countries. This was immediately followed by the **2nd International Conference on Contemporary Antimicrobial Research** where all of the Bradford team gave presentations on their work in this area to a highly receptive and interdisciplinary audience. Dr Leckenby's presentation on parasites was particularly warmly received by Professor Ghosh. The team was able to take time out from this meeting to meet with local collaborators Prof Nikhil Singha, and PhD candidate SL Banerjee, with whom they have just had a second publication accepted, and Dr Swift was given a tour of the IIT chemistry department (pictured).

After the ICCAR conference was complete Prof Rimmer and Dr Stewart visited local ophthalmologist clinicians in Hyderabad for a meeting to discuss their recent collaboration, and then Prof Rimmer and Dr Stewart both gave invited talks at the **2018 International Conference on Polymer Science and Technology MACRO conference** in Pune.



Left: **Drs Leckenby & Chang** join the students on the last day of the ICCAR conference (back left of the crowd shot). Upper: **Dr Swift** and SL Banerjee (established collaborator) visit Department of Chemistry IIT Kharagpur. Bottom: **Dr Stewart** and **Prof Rimmer** thanked for their invited lectures at the MACRO conference



Skin Ageing and Challenges

Rachael Sutherland-Sedman and **Dr Julie Thornton**, from the Centre for Skin Sciences (CSS), attended the '10th annual meeting for skin ageing and challenges' in Porto, Portugal on the 25-27th February. Rachael's research was selected for an oral communication and she was the only student to appear in the opening keynote session. She presented her work supported by Aveda/ Estée Lauder, titled: 'Skin ageing in female scalp: changes in the extracellular-matrix hair follicle environment – a comparison of cultured dermal fibroblasts & hair follicle dermal sheath cells'. Rachael will also be speaking at the '11th world congress for hair research', held in Barcelona, in April.



Left: **Rachael Sutherland-Sedman** and **Dr Julie Thornton**. Right: **Rachael** presenting her work

School of Chemistry and Biosciences Seminar Series

The School seminar series is open to all staff and students – please make every effort to attend.

Date	Time	Location	Presenter	Title
6 th March	12:00-13:00	H33	Dr Nicolas Barry	Influencing the chemistry and biochemistry of organometallic compounds
13 th March	12:00-13:00	H33	Dr Rianne Lord	Synthesis and stability of early transition metal complexes: the complexity of coordination compounds as potential drug candidates
20 th March	12:00-13:00	H33	Dr Andy James (Bristol)	Caveolin-3 and cardiac function in health and disease
27 th March	12:00-13:00	J19	Dr Isolda Romero-Canelon (Birmingham)	Precious metals in the fight against cancer
3 rd April	12:00-13:00	H33	Prof Lynda Williams (Aberdeen)	Food for thought – my career in nutrition research Athena SWAN seminar
10 th April	12:00-13:00	H33	Dr Manosh Saralaya (Bradford hospitals NHS Trust)	Severe Asthma Management: A paradigm shift in thinking
1 st May	12:00-13:00	TBC	Jonathon Cox (Aston University)	Using drug discovery to probe Mycobacterial physiology
15 th May	12:00-13:00	TBC	Prof Rasmita Raval (Liverpool)	Antimicrobial Surfaces: Interdisciplinary Research and Innovation
22 nd May	13:00-14:00	TBC	Carol Treasure (XcellR8)	TBC
29 th May	12:00-13:00	TBC	Prof Andrew Wright (BRI)	TBC

Café Scientifique

Date	Time	Location	Presenter	Title
14 th March	18:45 20:00	National Media Museum	Dr Gisela Helfer	What your pet hamster can teach us about obesity
18 th April	18:30-20:00	Theatre in the Mill	Prof Gail Mountain	Can technology help us to live well as we get older?
16 th May	18:30-20:00	Theatre in the Mill	Prof Fun Hu	What does a future city look like?

High Performance Computer Users

Dr Chris Sutton held the inaugural meeting of the "High Performance Computer Users Club" on Wednesday 30th January, attended by Vince Gaffney, Chris Gaffney, Simon Shepherd, Amber Leckenby, Krzysztof Poterłowicz, Phil Murgatroyd and Adrian Evans. With many members of staff meeting for the first time, it was impressive to learn about the extent of the HPC facilities and resources within the University. The meeting provided an opportunity to discuss IT support and infrastructure issues that need to be addressed, and an enthusiasm to work together to find solutions. Further regular meetings are planned. For information, contact Chris Sutton. It is very important that Chris is aware of all of the high level computer teams in the School so do drop him a line so he knows who you are.

Human Tissue Act

The laboratory audit for the HTA and H&S will take place over the two days of Wednesday 15th May and Thursday 16th May. If you would like to book a specific time slot you will then be able to be present or to ensure that someone is there for the audit to proceed smoothly. Please see this audit as a process of continuous improvement which will ensure a smooth renewal of the UoB HTA Licence, due in 2020. Please contact Dr Mojgan Najafzadeh with any queries or to book your slot.

Prof Diana Anderson attended a Management Committee meeting on Monday 28th January in Riga, Latvia for EU Cost Action15132. Khaled Habas is attending a training Workshop at the same venue and received a bursary of 500 euro to do so.

Dr Rianne Lord has been invited to give oral presentations at the University of Loughborough as part of their seminar series (29th May 2019) and the 9th International Symposium on Bioorganometallic Chemistry, York (28th July-1st August 2019). Additionally, Rianne has been asked to give a presentation and be a panel member as part of the "Multiple pathways to success" at the upcoming Jolie Curie conference in Nottingham (11-12th September 2019). This is an annual event dedicated to supporting the aspirations of early career researchers, particularly those who are underrepresented in academia.

Upper: The painting waiting to be sampled
Lower: Dr Alex Surtees sampling the painting

Art Detectives

The Analytical Centre has recently been undertaking some exciting work with the De Brecey trust to try to establish the provenance of a painting originating from the mid 1850's. The De Brecey trust was established by George Winward to provide schooling and education to students from impoverished backgrounds. The trust owns a number of Winward's paintings, several of which are old masters, and has been trying to establish provenance of these in order to raise money to carry out their charitable directives.

The painting examined by Drs Alex Surtees and Richard Telford is believed to have been painted by one of England's most recognisable masters, John Constable. X-ray and visual analysis had backed up the claims that the painting was by Constable but the Constable committee required further evidence that the pigments used were the same as those used in previous, and verified, works by Constable.

The painting was delivered to the Analytical Centre where, under the watchful glare of a trustee, small flecks of paint were removed with a scalpel. These flecks were then analysed with Raman spectroscopy in order to try to ascertain the identities of the pigments. Several pigments were identified including two of Constable's favourites; ultramarine and Prussian blue. All of the pigments were individually verified as having been used in Constable's palette. The Constable committee meet in April in order to verify all the findings although, it is an open secret in the art world that they expect to verify this unknown painting as a true work by John Constable.



Teaching

Apprenticeships, new courses, and where your degree can take you

HUBS / HUCBMS

The **HUBS/HUCBMS Joint Biosciences Learning & Teaching workshop on Overcoming Barriers in Chemistry Teaching** within the Biosciences will be on the 1st July 2019. There are 40 places for this free workshop, which will be publicised nationally by the **Royal Society of Biology**. Funds have been allocated to do targeted advertising at other biosciences departments, which will be focused on Northern institutes as one of the outputs of the meeting is to foster a learning and teaching network on this issue. **Dr Clare Towse** is currently confirming speakers and a programme will be circulated soon with details of how to register.

Curriculum Co-design

In late February, **Dr Kirsten Riches-Suman** was invited as a higher education expert to **Liverpool Hope University**, to consult on their curriculum design for a new degree programme. This was an enlightening visit into how different universities go about designing new programmes, from conception of what the ultimate graduate should have, through to advertising, and the nitty gritty of what goes into each year. Should the programme receive internal approval from Liverpool Hope, Dr Riches-Suman will be involved in giving final external approval to the course design. She found the day really valuable, and it was a pleasure to spend the day on the beautiful campus.

Technical Support for Undergraduate Projects

Our BSc Biomedical Science students complete their 4 week undergraduate lab placements in January-February (see page XX for pictures from this years cohort). During this time the **teaching lab technicians** shine in their efforts to support our students day-in, day-out, and we're very happy to include some of their feedback here. Technical support within the school is excellent, thank you to all of you for supporting our students and ensuring the labs run smoothly, not only during projects but through all the labs throughout the year!

"Thank you all so much for your help and advice all these years! ♥ We appreciate you and your work! To all the technical staff, you guys are the best!!"

"The technical staff has been very helpful throughout. Thank you all for everything!"

"The lab technicians were amazing and super supportive. They made working 4 weeks in the labs an absolute pleasure. Thank you!"

"Thank you for being so helpful and providing help when needed!"

"Technicians were amazing and extremely helpful. Couldn't have asked for better support during the project. Not only were they helpful with working machinery but they also created a friendly atmosphere and were lovely to speak to during breaks. Always made time for our needs. Feel as though we need more technicians as they're the first line of support due to supervisors being so busy."

"You guys are absolutely amazing! You've helped us so much and you really know your stuff, you guys have been life savers. Thankyou for being patient and understanding ☺"

"Amazing!"

"It was really nice working in such good environment. Everything was great! Thank you all for help and support ♥"

"Very friendly, kind and understanding technical staff who go out of their way to help us! They helped more than the supervisors and none of us would be able to pass this without them. Thank you!"

"It was an enjoyable experience and all the lab technicians always helped to support us. Thank you to all the amazing staff!"

Teaching

Apprenticeships, new courses, and where your degree can take you

Where my Bradford degree took me...

Umaira Shuaib is one of our former MChem students, currently doing her PhD in KIT, Germany (one of the top five German institutes). Here she shares what she took from her time in Bradford.

What did you do at Bradford?

I graduated with the integrated master's degree 'Chemistry with a year in research' at the University of Bradford with a 6-month Erasmus research placement at the Karlsruhe Institute of Technology (KIT), Germany.

What are your lasting memories of your time here?

There were many aspects of chemistry I thoroughly enjoyed studying during my time at university; be it quantum mechanics, drug delivery systems or bioinorganic chemistry, every topic held its value in teaching the importance of chemistry as a fundamental science. Combined with the real-world applications of chemistry my interest in research developed and continued further into my degree, ultimately leading me to where I am today.

Studying at the UoB left many impressions on me. The support I received from the professors, lecturers and mentors throughout my degree, but more specifically the encouragement whilst writing my bachelor's thesis with **Dr William Martin** and my master's project with **Dr Sanjiti Nayak** was instrumental in moulding my curiosity.

Going on the Erasmus journey was definitely a huge highlight of my degree. Working alongside the excellent synthetic inorganic chemist Prof Annie Powell and her research group has not only improved my skills scientifically speaking, but establishing independence combined with global networking has progressively improved my communication skills.



How do you think your studies here have played a role in the development of your career?

There has been a clear progression in my abilities not just academically but also personally whilst partaking in the vast team dependent and self-dependent exercises throughout my studies. To elaborate, presenting in front of small and large audiences throughout the degree from first year to the masters oral and poster presentations has given me time to build on my confidence. Practical lab skills and intense courses using a range of analytical equipment (such as Raman, NMR and Mass Spec amongst others) has prepared me for a career in research.

Frequent guest speakers from different professions push the boundaries students typically set

when considering future careers. Attending these seminars helped me discover the diverse paths a degree in chemistry can offer. It also encouraged me to consider a career in Intellectual Property.

I am currently a PhD Candidate at the **Karlsruhe Institute of Technology** under the supervision of Prof Annie Powell. My research interests include the synthesis of a range of functional coordination complexes and oxides for use as the active material in energy storage systems. In the future I would like to join an IP firm and train as a patent attorney in chemistry or electronics.

What advice would you have for students currently on our courses?

Manage your time. Study in parallel to lectures. Make notes. Find a suitable revision method that works for you. Most importantly, discuss what you learn in class with your peers/professors. Discussions are key in understanding concepts and they will go a long way in making you an exceptional scientist.

Coming from Bradford (born and bred) and having studied whilst living at home, taking the Erasmus opportunity was the best decision I had made during my degree. It was something I did for me. To strengthen my skills, my CV and my personal progression. It can be easy to lose sight of future prospects when you are competing against students coming from larger well-known institutions. What is important is the motivation, determination and perseverance to be creative in your path. Apply for the job you're sceptical about. Take the class you find challenging. Consider moving abroad. Speak to department staff; they are friendly and willing to help. Opportunities are there to take, so make the most of them. Above all, enjoy your journey.



Admissions and Outreach

Admissions

The first UCAS application deadline has past but applications are still coming in (and will continue right through to Summer), and our schedule of admissions focused recruitment events is in full swing. We have had three successful applicant experience days where hands on microbiology lab practical's run by **Dr Jon Fletcher** and **Dr Amber Leckenby** have been particularly well received by our Biomedical Science and Healthcare science applicants. I'd personally like to thank our **technicians** for their contribution to the success of these recruitment events, particularly during the busy period of student projects, we couldn't stage these events without them.

As you will read below, our staff have been busy with some incredibly successful outreach projects, spreading their passion for science to the wider community. Keep up the good work!

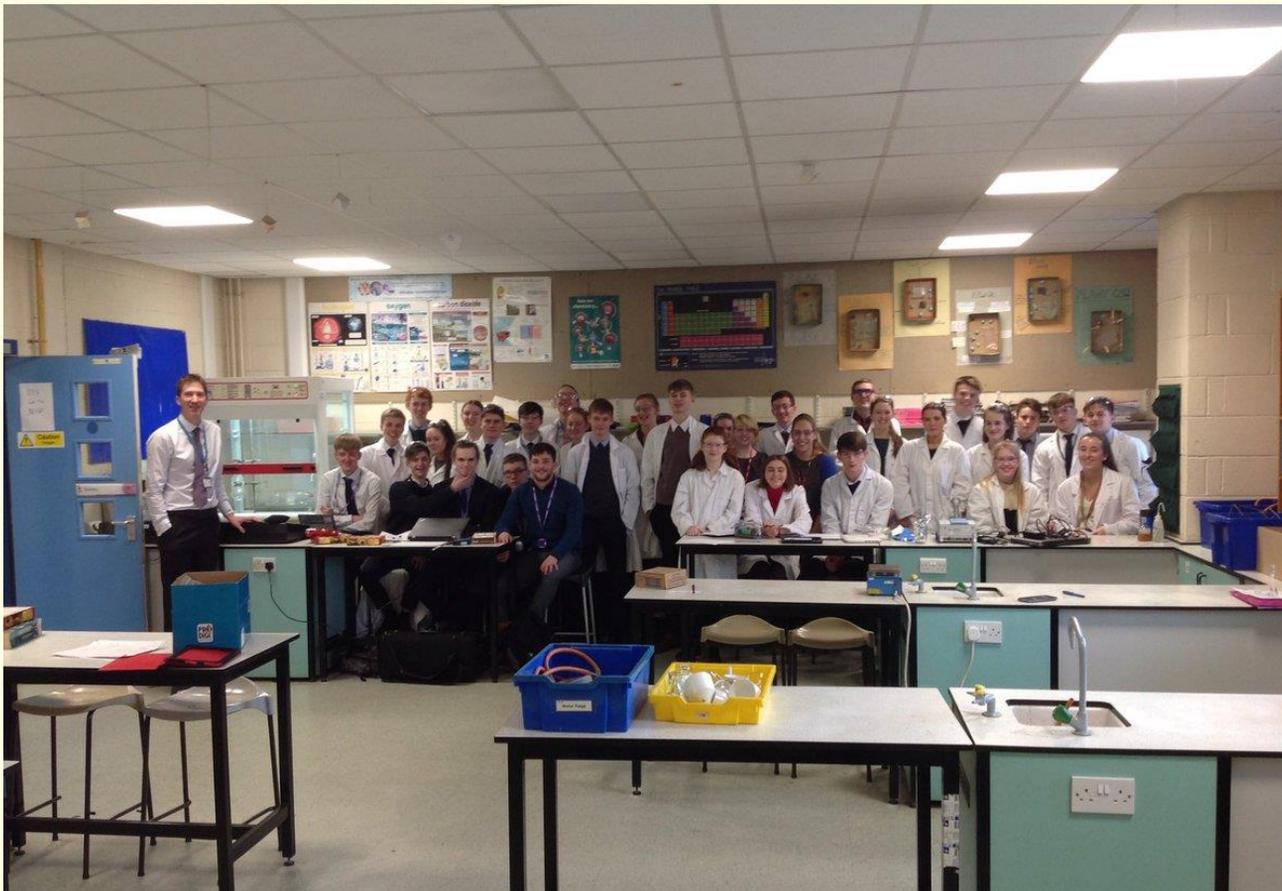
Finally from me, March will be equally busy from an admissions perspective, as we have the following events scheduled:

- **March 20th Biomedical Science and Chemistry Taster days**
- **March 23rd Applicant experience day**

Dr Andrew Tedder

RSC Partnership with Ilkley Grammar School

The **Royal Society Partnership Grant** between Ilkley Grammar School and **Dr Nicolas Barry** and **Dr William Martin** is in full swing. The project at the interface of chemistry and music has been awarded one of the 22 exhibits at the Summer Science Exhibition 2019 (<https://royalsociety.org/science-events-and-lectures/2019/summer-science-exhibition/>). This free exhibition will take place at the Royal Society (Carlton Terrace, London) and is free to attend.



Admissions and Outreach

Operation Ouch

Operation Ouch ran at the National Science and Media Museum during February half term. The aim of Operation Ouch was to get younger children to be less scared of doctors, nurses and dentists and to get older children to consider careers in STEM. The event was highly successful with well over thousand visitors attending. **Prof Anne Graham** and **Dr Gisela Helfer**, together with many colleagues from the School of Pharmacy and Medical Sciences, School of Psychology and Faculty of Health Studies, helped run a wide range of activities throughout the week. Activities involved shaking hands with a skeleton, making neurons, heart dissections and various pharmacy and public health related activities. Anne ran a workshop on diabetes that got children thinking about sugar content in various foods and drinks. Gisela made lots of neurons out of pipe cleaners and discussed amazing brain facts with the visitors. It was great to hear how much the kids already knew about the brain and parents and children were very engaged.



Dr Gisela Helfer and Prof Marcus Rattray (School of Pharmacy and Medical Sciences) at the Operation Ouch

Café Scientifique

Dr Julie Thornton gave an engaging talk at Theatre in the Mill cafe bar with an audience of over 20, discussing what our hair says about us. She covered the relationship of hair to sexual maturity, hormones, male pattern baldness and diseases such as alopecia. This part of the talk covered other mammal hair and relationship to dominance and strength, and Julie went to Africa to take samples from vicious bald male lions to understand why they don't grow manes. We had brilliant discussions and busted many hair myths because we're worth it! Hope you can join us for the next Cafe in the Science & Media museum on 14th March at 6.30 or 8pm where **Dr Gi Helfer** will talk about what your hamster can tell you about obesity



Upper: **Dr Julie Thornton** discussing her time in Africa. Lower: A full house for Café Scientifique.

Admissions and Outreach

VC Visit to Pakistan

On the 22nd February, **Dr Rianne Lord** joined the VC delegation in Pakistan, and during the trip they engaged with alumni and key stakeholders to create new opportunities, increase and diversify student recruitment and create partnerships between the country and the University of Bradford.

The delegation, led by Prof. Brian Cantor (VC), visited Lahore and Islamabad, and was also due to visit Karachi until that part of the trip was cancelled due to the airstrikes. The week of events began with an invited dinner at the Governors house to celebrate the opening of the **Lahore Literature Festival (LLF)**, and to name but a few, the group visited the Government College University, University of Lahore, Lahore University of Management Sciences, University of Engineering and Technology, Pakistan Engineer Council, the Institute of Space and Technology, Higher Education Commission Islamabad, National University of Sciences and Technology and the Chamber of Commerce. On the 24th February, Rianne visited Shaukat Khanum Cancer Hospital, where she had the pleasure of meeting a Bradford alumni, Dr Saira Saleem, who completed her PhD with Dr Christopher Sutton in the Institute of Cancer Therapeutics. In both Lahore and Islamabad, the team hosted an evening event entitled 'Destination Bradford: Education & Culture from the heart of the UK' which attracted over 300 alumni, applicants and stakeholders for discussion and networking opportunities.



Visit to University of Engineering and Technology, Lahore



The alumni, applicant and stakeholders event 'Destination Bradford: Education & Culture from the heart of the UK' in Lahore



Visit to Shaukat Khanum Cancer Hospital to meet our alumni Dr Saira Saleem

The group having the final meal together in Islamabad



Admissions and Outreach

Chase the Dragon!

We have a Faculty of Life Sciences Dragon boat for the **Bradford Dragon Boat Festival**. The Dragon boat race will take place on the 22nd of June in Saltaire and the team consists of 20 team members, with 16 paddlers and a drummer competing in each race. We will compete in a minimum of 3 races, with the fastest time counting towards the qualification for the final. There are still some (limited) places on the boat, please get in touch with **Dr Gisela Helfer** (g.helfer@bradford.ac.uk) if you are interested in joining the boat.

The Faculty Dragon Boat team has committed to raising a minimum of £500.00 for the '**Sue Ryder Manorlands Hospice**' and '**Nightstop Bradford**' charities. We have joined forces with the second University Dragon Boat for fundraising. Over the next few months, we are planning a few fundraising events and we hope that you will support us. If you would like to donate some money, please visit our localgiving page:

<https://localgiving.org/fundraising/uni-of-bradford-rowing-for-charity/>

Of course, we also hope that many of you will be there on the day to cheer us on! You might even see us capsizing, although we have been promised that this rarely happens. One can only hope ...



Charity Work

DON'T WANT TO GIVE ANYTHING UP FOR LENT? THEN GIVE TO US INSTEAD AND JOIN OUR 40 TINS OF LENT CAMPAIGN!

We're asking churches, workplaces, schools and individuals to join our campaign by simply collecting a tin of food each day during the 40 days of lent to boost our dry food store. In particular, we need tins of chopped tomatoes, meals in tins (Irish Stew, meatballs etc), rice pudding, tinned fish and meat.

These will be used in emergency food parcels and also to supplement the food we provide in our free café which runs four times a week and which produces around 340 two course meals a week for those in our community who need them. We're particularly depleted at the moment due to the Winter Shelter which also provides an evening meal and breakfast to our residents. Please help if you can!



Please give what you can to help out the homeless at the **Gathering place and Winter shelter** in Halifax. **Heather Reeve** volunteers here every Saturday and sees the desperate need for these services. Please email Heather at H.Reeve1@bradford.ac.uk for more information or to help donate.

BSc Biomedical Science Final Year Projects

Our undergraduate BSc Biomedical Science final years completed their projects in February. This part of the degree is often lauded as the most enjoyable by both students and staff alike, and we sincerely hope a lot of valuable data was collected! So, as the dust settles and the teaching labs get back to normal, here's a few photographs to commemorate the student projects 2019.



Student Zone

Successes, societies
and inspiration

PhD Successes

Warm congratulations to **David Broadley**, a PhD student in CSS working on alopecia areata (supervisors **Dr Andrei Mardaryev** and **Prof Vladimir Botchkarev**), who passed his transfer viva under the examination of **Dr Julie Thornton** and **Prof Kevin McElwee**.

Winter Graduations

December saw our winter graduations, and we were delighted to celebrate all of our graduates' successes. As well as our MSc students, we had two research degree graduations as well. Congratulations to **Katarzyna Murat** (supervisors **Dr Krzysztof Poterłowicz**, Prof Des Tobin and Dr Jim Boyne) for her MPhil on Bioinformatics analysis of epigenetic variants associated with melanoma, and **Jing Tay** (supervisors **Dr Julie Thornton** and **Prof Anne Graham**) for his PhD on the roles of Vitamin D in cutaneous wound healing.



Student Societies News

Coming soon, The Deoxyriball!

The Biomedical Science Society, in combination with the Clinical Science Society are proud to announce that their annual student ball, the Deoxyriball, will this year be held in the Midland Hotel on April 14th. The ball is open to members, students (across all of 'life sciences') and lecturers. If you would like to attend, tickets are on sale now, and can be purchased from [here](#). Keep an eye on our social media links (@BMSSUoB) for further updates!

We will soon be running revision sessions for the first-year Biomed students, again, keep an eye on our social media for more information as to what these sessions will cover, and when they will run! If you have requests for specific revision sessions, please let us know and we will try to accommodate them.

This semester has been one of heavy work for all years, and we hope that all students have performed well in any assessments they may have had!

Jake Livingstone, President of the Biomedical Science Society UoB.