

# Bradford ChemBio

What's been going on in our school for the past three months...  
January – March 2023



@UoBChem

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Have an item for the newsletter? Email [k.riches@bradford.ac.uk](mailto:k.riches@bradford.ac.uk) or [m.sutherland@bradford.ac.uk](mailto:m.sutherland@bradford.ac.uk) with 'Newsletter' in the heading

# Welcome!

## Welcome from your Newsletter Editors...

A warm welcome to everyone to the first newsletter covering 2023! The sun is shining, the weather is starting to get warmer, and our students and staff have been out and about demonstrating the fantastic quality of work that is conducted within our School. Read on to see our research being discussed as far afield as the US (and in the glamour of Monaco). Learn about how we've been feeding into national teaching benchmarks and how our teaching expertise is recognised internationally. And let's not forget, our newest doctors who have completed their vivas over the last few months. We also have a number of new starters and we would like to take this opportunity to welcome them to our School.

The School is very sorry to hear of the passing of Prof Nic Barry in March 2023. Nic was part of the School between 2016-2021 and contributed to development of the Chemistry submission of REF2021 as part of the School and University REF groups. Anyone who wished can sign a condolences card for his wife Dr Anais Pitto-Barry who also worked in the School during the same time period.

The summer months are prime recruitment time for our undergraduate and postgraduate courses. Please do volunteer to help out at applicant experience days so that we can continue to attract robust numbers of students and keep the School financially sound.

Next month, we are delighted that so many of our staff are taking part in the pint of Science events. These are excellent outreach activities that can help the public to understand the ground-breaking research being carried out at the University of Bradford. The events are dependent on sales so please do buy your tickets (£5) and encourage others to do so if they are able. More information on the talks and the link for the website can be found in the outreach section.

Thank you again to all students and staff who have been in touch and contributed to the newsletter – we couldn't compile all this positivity without your continued engagement. It is very much appreciated and we look forward to seeing everything you are up to over the coming months!

All the best,

**Dr Kirsten Riches-Suman** and **Dr Mark Sutherland**



## Outstanding Achiever Awards

The shortlist for the University Outstanding Achiever Awards have been released and we are delighted that the hard work of our School members has been recognised by nominations.

**Dr Sobia Kauser** has been nominated twice in the **Outstanding Contribution to Equality, Diversity and Inclusion** award. She has a solo nomination for her commitment to inclusive learning and teaching, and is part of the Managing Risks for Impaired Laboratory Users (**MaRILUTM**) team who are developing a system to ensure disabled students benefit from tailored laboratory environment adjustments. In a lab-intensive School such as ours, this is critically important.

**Project CAYMAN** has been shortlisted for **Outstanding Contribution to Knowledge Exchange**. This multi-project initiative is designed to help SMEs get data they would otherwise be unable to attain, and is led by **Dr Richard Telford**, **Dr Tom Swiff** and **Prof Steve Rimmer** from our School, as well as Dr Liam Sutton, Dr Alex Surtees, Carly Mitchell, Sharon Mason, Prof Ben Whiteside, Dr Kavian Cooke and Dr Jason Jones

The student attainment team have been shortlisted for '**Outstanding Support for Students**'. We have all seen the hard work that **Julie Warden**, **Tom Robshaw**, **Maria Azmanaova**, **Laia Rafols** and **Parisa Naeem** have been putting in to help reduce our attainment gaps.

Whilst Ethical Tissue sit within the university and not just within our School, we have a large number of academics who engage with and are reliant on **Joanne Mullarkey** and **Dr Parisa Naeem** for their links with the hospital and tissue provision. We are delighted that they have been recognised with a nomination in the **Outstanding Contribution- Team Award**.

**Congratulations to all of our outstanding achievers, and we look forward to the award ceremony at the end of April.**

## New Staff

**Dr Katarzyna Kamieniecka** has joined the **Computational and Data-Driven Science Team** as Lead Data Stewardship Trainer.

She is working in the field of data Management and stewardship in the life sciences for the ELIXIR-UK DaSH Fellowship led by **Dr Krzysztof Poterłowicz** at Bradford. She will be involved in national and international focus groups (ELIXIR, The Carpentries, Galaxy Training Network, nf-core, Northern BUG) with the aim to develop and provide bioinformatics and medical informatics training for clinical fellows and research staff. Her background in computational methods and training strongly focuses on robustness and reproducibility.

With an MPhil in Biosciences and an ongoing PhD at the Computational and Data-Driven Science cluster at the University of Bradford she got involved in skin biomarkers studies and has developed a collection of freely available Galaxy tools, combining analytical methods into a range of convenient analysis pipelines with a graphical user-friendly interface and training.

In parallel, she's worked for the CRUK MI Cancer Biomarker Centre as a Senior Computational Biologist, developing novel methods and Nextflow pipelines for a better understanding of genomic alterations in cancer derived from patient tumours and liquid biopsies. She was also responsible there for the development and delivery of a series of bioinformatics-focused workshops for the researchers and community.

Throughout all her experiences, with tools and pipeline development supported by networking and community engagement, Katarzyna turned intensely toward research data management and training delivery.

## New PhD Students

I am **Hera Khan**, a Commonwealth split site Research fellow working on my PhD Project titled "Repression of Angiogenic Markers using Nanoparticle loaded miRNA Mimics". The research is funded by Commonwealth Scholarship Commission for a period of 12 months. The project deals with using nanoparticles as delivery agents that can cargo tumour suppressor miRNA mimics inside the cell. The miRNA will then inhibit angiogenesis by degrading VEGFa: a major angiogenic marker. I am working under the supervision of **Prof. Anne Graham**, Dr Jacobo Elies and **Dr Kirsten Riches-Suman**.



## New Intern

My name is **Marion Bastard**. I am 21 years old, and I am from France. I'm in my first year of a Master's in Biotechnology: Cellular and Molecular engineering at the University of Lille (in the North of France). I have recently started an internship under the supervision of **Dr Stephen Sikkink** and **Dr Sobia Kauser** in the Centre for Skin Sciences for the next 4 months. During my time at Bradford, I will be continuing ongoing research studying the effects of high glucose on specific protein targets in fibroblast subpopulations. I am pleased with this opportunity and hope to learn as much as possible from them.



## Northern Power Women Awards



**Professor Diana Anderson MBE** won a commendation in the 'People with Purpose' category at the annual Northern Power Women Awards. Speaking after the award ceremony in Manchester, Professor Anderson said: "I was very pleased to receive the award, it means a great deal to me. It is recognition of the work I have done, and the work now continues."

Professor Anderson is Established Chair of Biomedical Sciences at the University. She was made an MBE in the 2022 New Years Honours list for services to Genetic and Reproductive Toxicology. Her research has focused on using a single test for early cancer detection. She has also carried out ground-breaking research into genome stability in the umbilical cord blood.

In her time at Bradford, Diana has brought in almost £3m of research funding. She has supervised 32 PhDs and 2 MSCs, managed several post-doctoral positions and is currently supervising four other PhDs. She has also published over 540 papers and twelve books. University Vice-Chancellor Professor Shirley Congdon, who was shortlisted for an award last year, said: "Diana thoroughly deserves her award for her commitment and focus over a long period of time. She has already made an impact through her determination and focus on her work."

## Professional Development

**Xenia Perez Sitja**, is managing the first Data Stewardship Fellowship in the UK, led by **Krzysztof Poterłowicz** at Bradford. As Community Manager for this National Fellowship, she has just graduated from the international Scientific Community Engagement Fundamentals, a course run by the Center for Scientific Collaboration and Community Engagement. In this eight-week course, she explored core frameworks and vocabulary around community purpose, strategic programming, and community member participation. She has been exploring the skills required for managing STEM communities of practice, what success looks like, techniques for programming content and elevating community members among others. Over the next months, she will be applying all best practices to ensure the sustainability of the Data Stewardship Fellowship, highlighting the University of Bradford as pioneers in such an approach.

## New roles

**Dr Bev Stewart** has been appointed to work across the School as **Curriculum Development Lead**. Bev will lead on the development of new programmes which will showcase our integrated expertise in chemistry and bioscience.

**Dr Jenny Waby** will be taking on head of the Biomedical Science programme from summer 2023 and we thank Dr Jon Fletcher for all his hard work in this role over the past few years. Eols for DoS are welcome – please contact Anne.

The biology technical team has set up a job share technical lead from 1st March to 31st August. This is to ensure full time leadership on G floor for the team, especially over the very busy MSc project period. **Danielle Clerkin** will be working alongside **Dr Juanvi Canet-Perez** in this role whilst they manage their respective technical and academic duties, please do everything you can to make Danielle and Juanvi's jobs run as smoothly as possible while the laboratories are busy with our large MSc cohort.

## Professor David Sharpe, OBE

**We are sad to announce that Prof David Sharpe, OBE has passed away following a short illness. David was the founder of the Plastic Surgery and Burns Research Unit (PSBRU) and had a massive impact on research and clinical links within the School.**

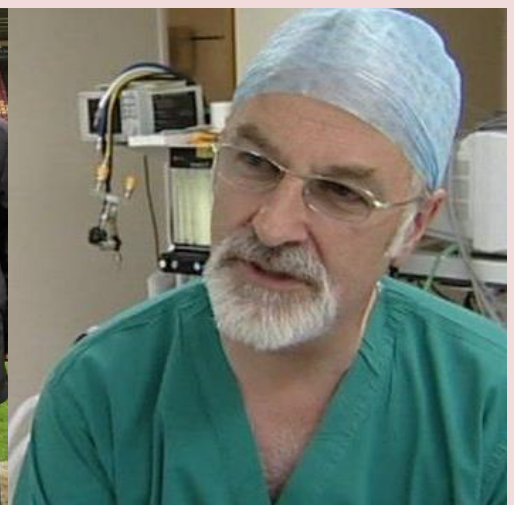
**Professor Sharpe** led the surgical response to the Bradford City Football Club fire disaster at Valley Parade on May 11, 1985, which claimed the lives of 56 people and resulted in more than 250 people with burns, many of them life changing. He organised the response to treat the burns injuries in the immediate aftermath of the tragedy, conducting more than 20 operations in the first few hours. Many had burn injuries to their hands, which inspired him to invent the Bradford Sling, which revolutionised the management of hand injuries worldwide. After the fire, he then founded the Plastic Surgery and Burns Research Unit (PSBRU) a partnership between the Department of Plastic and Reconstructive Surgery at the Bradford Royal Infirmary and the Centre for Skin Sciences at the University of Bradford, making the city a pioneer in the field of burns research. This research unit (also known as the Bradford Burns Unit) is now internationally renowned and is recognised as one of the leading units of its kind in the country.

**Professor Ajay L Mahajan**, clinical director of the PSBRU, said: "Today marks an end of an era for us. Although David had retired some time ago, he was still omnipresent. It is with great sadness that we have to come to terms with him not being with us anymore. To say that David was a legend in our world of plastic surgery would be an understatement. He was a highly skilled surgeon, a great personality and a mentor to hundreds of plastic surgery trainees over the years. He has trained and helped build careers for quite a few of us, all of whom will remember him forever with great fondness. David was the founding director of our Plastic Surgery and Burns Research Unit (PSBRU) and under his supervision we have conducted many research projects over the years. This work has been published and presented at various national and international meetings, which David was an integral part of. As much as we will miss his physical presence, he will always be in our memories, and we will continue to make his legacy proud through the work we do at our research unit."

**Professor Julie Thornton**, Director of the Centre for Skin Sciences, said: "This is a very sad day for our Plastic Surgery and Burns Research Unit (PSBRU). David Sharpe had a vision and passion for research in burns and scarring, that inspired dozens of young doctors to work in this field. I have known David for many years, and it was a privilege to work with him on such a vital area of scientific research that has important outcomes to improve the quality of life for people injured by burns. We will miss him immeasurably, but his legacy will live on through the Unit."

**Professor Anne Graham**, Head of School of Chemistry & Biosciences at the University of Bradford, said "Professor Sharpe's long and active relationship with the university through the Plastic Surgery and Burns Unit charity has enabled research training and development of clinical research fellows, enhancing the skills of the next generation of plastic surgeons, one of whom I was lucky enough to co-supervise. His impact saved lives following the Bradford stadium fire disaster and the research has increased our understanding of how to reduce scarring and promote healing of burns. My thoughts are with his family at this sad time."

Professor Sharpe was awarded a Doctor of Science from the University of Bradford in 2011 for his work as an honorary professor at the university, and as the Clinical Director of the PSBRU from its inception. He retired in 2014, after a career in plastic surgery spanning 40 years.

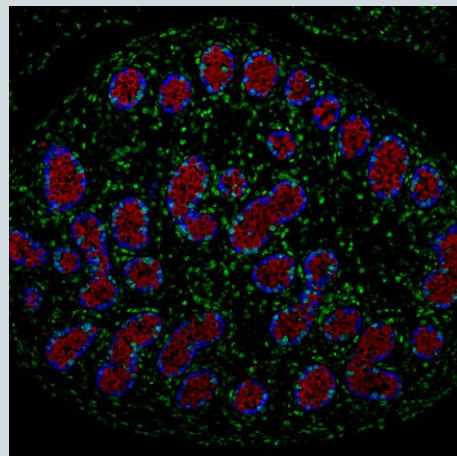


## Academy of Medical Sciences



Dr Peter Nicholls has been awarded a Springboard grant from the **Academy of Medical Sciences**. The award provides two years of professional development support and £100,000 funding to help launch Peter's independent research programme at the University of Bradford.

With this support, Peter will investigate the origins of germ cell tumours, with a focus on how gonadal cells instruct the newly colonising germline to continue development. A major goal for the research is to better understand how disrupted gonadal development influences the likelihood of developing reproductive tumours much later in life.



Peter continues the excellent success that the School has with securing Springboard funding, averaging one awardee per year since the University joined the scheme under the championship of Prof Diana Anderson. Many congratulations!

*Histology of the embryonic mouse testis, with gonadal support cells (blue) and germline cells (red).*

## Schlumberger Success

Dr Sanjit Nayak (PI) and Dr Maria Katsikogianni (Co-I) and Michael Chen from Edinburgh (as external Co-I) have succeeded in securing a **Schlumberger Faculty for the Future Fellowship** for the 2023-24 round to host Ms Thabiso Sekai, an international student from Botswana, with a funding up to 50,000 USD per year for four years maximum. The student will start in June or October 2023 (depending on Visa and paperwork) to work on a project titled "Sustainable and controlled drug delivery to fight global antimicrobial resistance (AMR) using hybrid porous nano containers".

Dr David Ansell has also secured funding through the Schlumberger foundation. He will be co-supervising a new PhD student alongside Prof Anant Paradkar (PI). This student should start in June.

## AstraZeneca/Syngenta

Dr Debbie Crawford has successfully secured an AstraZeneca/Syngenta funded PhD scholarship 'Toward low-carbon API manufacturing through greater understanding of synthesis by extrusion', in collaboration with Professors Stuart James and Steven Bell, of Queen's University Belfast.

## Beamtime

Dr Briony Yorke has been awarded 4 weeks of beamtime (€1.3M equivalent cost) to develop new methods for X-ray generation at the ERIC extreme light infrastructure: UPM-19 Developing Hadamard Time-resolved Crystallography at the Laser-driven Plasma X-ray source (HATRX@PXS)

## Grant Panels

Dr Yvonne Nyathi's application to the **UKRI Talent Peer Review College** (PRC) was successful. She will review grants focussing on future leader's fellowship and other talent related grant applications for early to mid-career academics. She joins Prof Anne Graham and Prof Julie Thornton on the Peer Review college

Dr Gisela Helfer has been invited as a 2023 Reader for the **L'Oréal-UNESCO UK and Ireland For Women in Science Fellowship** applications. This is the fifth year in a row that Dr Helfer has been appointed as a Reader for this prestigious fellowship round.

## UKRI Catalyst

In February, Prof Julie Thornton was invited by Professor Dame Ottoline Leyser, Chief Executive of UKRI, to the Catalyst, Newcastle Helix to hear about UKRI's first five-year strategy. The focus of the event was Resilience, one of the four 'principles for change' underpinning their Strategy. The programme explored the diversity of UKRI-funded research and innovation across Yorkshire, Humber, and the Northeast, to identify partnerships with the region to deliver on transformative opportunities for society through research and innovation.

## Papers in Press...

Chen GD, Fatima I, Xu Q, Rozhkova E, **Fessing MY, Mardaryev AN**, Sharov AA, Xu GL, Botchkarev VA. **DNA dioxygenases Tet2/3 regulate gene promoter accessibility and chromatin topology in lineage-specific loci to control epithelial differentiation** *Science Advances* 2023;9(2):eabo7605

Collins A, Møller P, Gajski G, Vodenková S, [...], **Anderson D**, [...], Langie SAS, Azqueta A. **Measuring DNA modifications with the comet assay: a compendium of protocols.** *Nature Protocols* 2023;18(3):929-989

Firempong CK, Addo-Fordjoub P, Komalga G, Ameyaw Y, Nwoke Okechi N, F Kumi, **Asare-Amankwah Y**. **Ethnobotanical study of medicinal plants used to treat HIV, cancer and diabetes in some communities of Ashanti region, Ghana.** *Journal of Herbal Medicine*, 2023 in press

**James RS**, Seebacher F, Tallis J. **Can animals tune tissue mechanics in response to changing environments caused by anthropogenic impacts?** *Journal of Experimental Biology* 2023;226:jeb245109.

Lewis DM, Broadbent PJ, Rigout MLA, Carr CM, **Seaton CC, Swift T**. **Investigation into the development of novel lanthanide-based luminescent colorants for application to textiles and paper materials.** *Coloration Technology*, 2023 in press

**Livesey TC, Mahmoud LAM, Katsikogianni M, Nayak S**. **Metal-organic frameworks and their biodegradable composites for controlled delivery of antimicrobial drugs.** *Pharmaceutics* 2023;15(1):274

McBride L, **James RS**, Alsop S, Oxford SW. **Intra and inter-rater reliability of a novel isometric test of neck strength.** *Sports* 2023;11(1):2

**Riches-Suman K**. **Increasing the representation of women in diabetes research.** *Diabetology* 2023;4:128-133

Romero-Guevara R, Nicolaou O, Petracca B, Shaheed S, **Sutton C**, Frangou E, Afami M, Kyriacou K, Ioannides A, Xinaris C. **Patient-derived podocyte spheroids reveal new insights into the etiopathogenesis of Alport syndrome.** *Frontiers in Cell and Developmental Biology* 2023;11:1111424

**Swift T**. **Peristomal skin complications: new materials needed to ease the ostomy care market.** *British Journal of Dermatology* 2023 in press

**Swift T**. **Stabilisation of acrylic latexes containing silica nanoparticles for dirt repellent coating applications.** *Polymer* 2023;271:125830

**Trevor LV, Riches-Suman K, Mahajan AI, Thornton MJ**. **Stromal vascular fraction cells from individuals who have previously undergone radiotherapy retain their pro-wound healing properties.** *Journal of Clinical Medicine* 2023;12(5):2052

Zhu S, Liu H, Davis T, **Willis CRG**, Basu R, Witzigreuter L, Bell S, Szewczyk N, Lotz MK, Hill M, Fajardo RJ, O'Connor PM, Berryman DE, Kopchick JJ. **Excessive growth hormone promotes joint degeneration and chondrocyte metabolic dysfunction in mice.** *Arthritis & Rheumatology* 2023 in press

## RDF Publication Prize

Dr Mike Fessing won the RDF **publication prize** for his recent paper in *Science Advances* which also featured Dr **Andrei Mardaryev**. Mike will receive funds to perform outreach work regarding the paper.

## Faculty Research Away Day

The **Faculty Of Life Sciences Research Away Day** took place on the 25<sup>th</sup> of January in Norcroft Centre. The focus was on the practicalities of the research journey (RIS services, REF, PGR regulations) and examples of how research can cut across boundaries. Within the School, our faculty was very well represented:

- **Dr Gisela Helfer** spoke with Prof Vince Gaffney about 4\* research papers and took part in the panel discussion on research culture and environment
- **Dr Gill Westgate** spoke about impact and industry partners
- **Xenia-Perez Sitja** talked about open and FAIR research data
- **Dr Kirsten Riches-Suman** gave a talk with Dr Karina Croucher about integrating teaching and research

We also had excellent engagement from our PhD students in chemistry and biomedical sciences during the poster session.



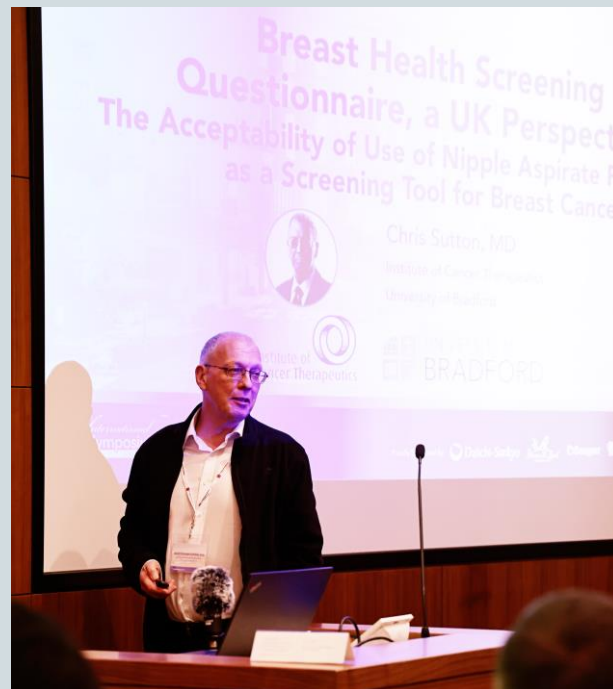
## ACS Interview

Dr Sanjit Nayak was interviewed by ACS to express expert opinion on porous metal-organic frameworks (MOFs) as potential carrier and delivery agents for agrochemicals, based on exciting works carried out by the group and published recently. The comments from the interview are highlighted in the ACS Chemical and Engineering News (c&en):

<https://cen.acs.org/environment/pesticides/Porous-pesticide-carrier-promotes-plant/101/web/2023/02>

## USA Breast Symposium

Dr. Chris Sutton was an invited speaker at the 11th Symposium on the Human Breast organised by the Susan Love Foundation for Breast Cancer Research in Los Angeles on 4th and 5th February. He gave a talk on "Breast Health Screening Questionnaire, a UK Perspective: The Acceptability of Use of Nipple Aspirate Fluid (NAF) as a Screening Tool for Breast Cancer" which had a particularly significant impact on the patient advocates in the audience. As a consequence, Dr. Sutton's US collaborators were awarded \$40,000 by the meeting organisers, towards developing a home-based kit for breast health screening.



The majority of the young women are breast cancer advocates who were diagnosed in their 20s or even younger with breast cancer, or at high risk and have had preventative mastectomy. This is why a know approach to breast cancer detection is needed.



## RSC Poster Conference

Dr Maria Azmanova presented a poster at the online RSC poster conference from her PhD work on 'Anticancer water-soluble organoruthenium complexes: Synthesis and preclinical evaluation'.

**Anticancer water-soluble organoruthenium complexes: synthesis and preclinical evaluation**

M. Azmanova, L. Rafols, P. A. Cooper, C. C. Seaton, S. D. Shnyder, A. Pitto-Barry  
School of Chemistry & Bioscience, University of Bradford, Bradford BD7 1DP, UK.  
Hobart Centre Pure Science, CHS3 336661, 21 Hercules Road, Hove, BN3 9FQ, UK  
M.Azmanova1@bradford.ac.uk

**BACKGROUND**

- Need for novel anticancer therapeutics with different mechanisms of action than platinum(II) drugs
- Previously investigated 16-electron lead complex showed great promise as an anticancer agent
- Structural modifications with water-soluble phosphine ligands to generate 18-electron analogues of lead molecule<sup>1</sup>

**METHODS**

- Synthesis, characterisation, stability in solution
- In vitro cytotoxicity studies
- Detection of ROS
- Mitochondrial-membrane potential assay
- Apoptosis studies
- In vivo evaluation of maximum tolerated dose
- Immunofluorescence studies

**KEY FINDINGS**

- Nanomolar to low micromolar activity towards human ovarian and lung cancer cell lines
- High levels of ROS
- Disruption of mitochondrial membrane
- Apoptosis
- Maximum tolerated dose of 56 mg/kg/day for complex 1, 15 mg/kg/day for complex 2
- Tumour growth inhibition in mice for AZ78bisR analograft model

**TAKE-AWAY**

- Remarkable cytotoxicity towards some human cancer cell lines
- Mechanism of action based on oxidative stress, disruption of the mitochondrial membrane and apoptosis
- Tumour growth inhibition in mice for the full duration of treatment without detrimental effects for the animal

**In vitro studies**

**Cytotoxicity**

| Complex   | IC <sub>50</sub> (μM) ± SD | IC <sub>50</sub> (nM) ± SD | Normal protein cell line |
|-----------|----------------------------|----------------------------|--------------------------|
| AZ78      | 0.60 ± 0.07                | 1.30 ± 0.01                | 1.8 ± 0.5                |
| Complex 2 | 0.96 ± 0.06                | 0.98 ± 0.06                | 5.7 ± 0.8                |
| Complex 3 | 6.5 ± 0.4                  | 18.9 ± 0.6                 | 4.9 ± 0.2                |

**Apoptosis**

**Changes in the mitochondrial-membrane potential**

**In vivo studies in mice**

**Maximum tolerated dose**

**AZ78bisR tumours**

**References**

- Bary N. P. E., Sadler P. J., Chem. Commun. 2013, 46, 9108-9131.
- Sokolova-Benedict V. J., Azmanova M., Pitto-Barry A., Cooper P. A., Shnyder S. D., Bary N. P. E., ChemBioChem. 2022, 19, 362-367.
- Azmanova M., Rafols L., Cooper P. A., Seaton C. C., Shnyder S. D., Pitto-Barry A., ChemBioChem. 2022, 23, 4222-4229.

## BSID

Prof Julie Thornton, along with PhD student Paul Norton attended the **British Society for Investigative Dermatology** in Glasgow. One abstract from CSS was selected as an oral communication and one as a poster presentation. The organisers included a session that allowed her to showcase The Skin Microbiome in Healthy Ageing Network (SMiHA) to highlight the current landscape and future opportunities. There was a lot of interest, particularly from dermatologists encouraging new members to join.



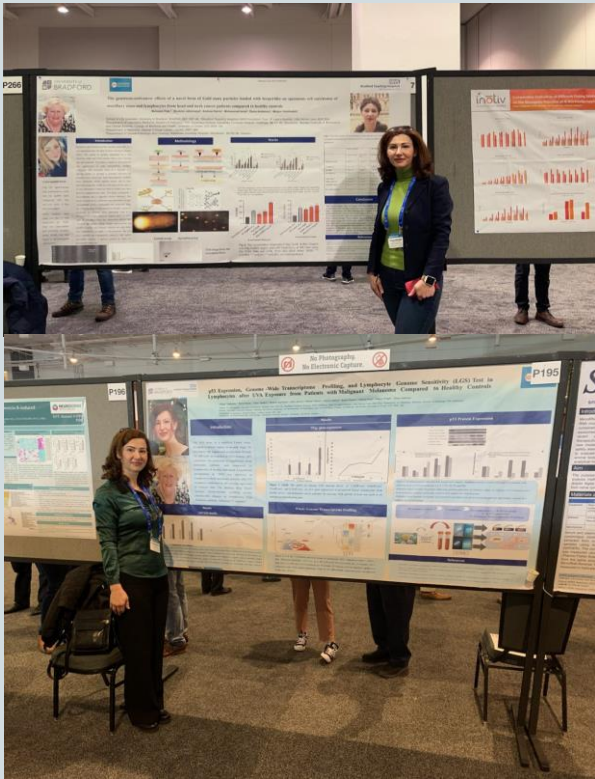
## CCP4

On the 6th of January, **Dr Briony Yorke** gave a talk at the CCP4 (**Collaborative Computational Project 4**) study weekend "Data Wrangling for time-resolved crystallography".

## Society of Toxicology

**Dr Mojgan Najafzadeh** presented two posters in SOT (**Society of Toxicology**) Nashville 2023 with her PhD student **Mehwish Fida**. The titles of those posters are:

- p53 expression, genome-wide transcriptome profiling, and lymphocyte genome sensitivity (LGS) test in lymphocytes after UVA exposure from patients with malignant melanoma compared to healthy controls
- The genotoxic/anticancer effects of a novel form of goldnano particles loaded with hesperidin on squamous cell carcinoma of the maxillary sinus and lymphocytes from head and neck cancer patients compared to healthy control



**Prof Julie Thornton** was an invited speaker at the UK Microbiome One Health Conference, at the University of Strathclyde, organised by Innovate UK KTN and the BBSRC where she gave a presentation as the Director of the UKRI funded Skin Microbiome in Healthy Ageing Network (SMiHA).

## Aveda

At the beginning of March, **Prof Julie Thornton** presented the ongoing collaboration with Aveda US to the Aveda UK team to support their Scalp Solutions launch. The event was held in Covent Garden, London to highlight the importance of scalp health/scalp care with the public including key influencers.



## One Health



## Aesthetic World Congress

At the end of March, Prof Julie Thornton and Dr Gill Westgate were both invited speakers at the **Aesthetic & Anti-Aging Medicine World Congress** in Monaco. There were more than 300 international speakers and 75 scientific sessions. It was also a royal occasion since the VIP at the Welcome reception was Prince Albert II of Monaco.



## Portugal visit

Xenia Perez-Sitja presented her and Dr Krzysztof Poterlowicz's project management solution for ELIXIR-UK Dash project at the OATEN Staff Exchange Workshop in Lisbon.



## BioInfect

Dr Tom Swift attended **BioInfect**, a conference organised by BioNow in Alderley Park Manchester to represent Project CAYMAN.

## RSC Prize Lectures

Dr Zak Hughes highlights that the University has recently been host to prizewinners from the Royal Society of Chemistry.

On Wednesday 1st March, **Professor Claire Eyers** visited the University. Claire is the winner of the RSC 2022 Chemistry Biology Interface Division mid-career Award and the Jeremy Knowles Award for the development and application of novel mass spectrometry-based analytical strategies to discover, identify and quantify dynamic biomolecular post-translational modifications. Her talk was entitled "Phosphorylation-mediated signalling - a new era?".

On Monday 27th May, we look forward to hosting **Professor Helen Cooper** is the winner of the RSC 2022 Analytical Division open Award: The Theophilus Redwood Award for for the development of native ambient mass spectrometry as an analytical technique to enable direct analysis and imaging of intact proteins and protein assemblies from tissue. Her talk will cover "Native ambient mass spectrometry: In situ analysis of proteins in tissue" and all are encouraged to attend.

## Careers signposting in cosmetics



Dr Gill Westgate was honoured to attend a reception at 10 Downing Street in February hosted by the British Beauty Council. This was as part of her directorship of Cosmetics Cluster UK (CCUK) and was part of the British Beauty Councils Future Talent Programme. The purpose of the event was to highlight career pathways in cosmetic sciences for young people aged 11-18.

The full report can be read here: <https://www.cosmeticsclusteruk.com/post/future-talent-working-in-beauty-science>

Gill's involvement was underpinned by a review of career opportunities in cosmetics that was published in Personal Care Magazine in March. This was used to support the application for the new UG degree in Pharmaceutical and Cosmetic Science at the University of Bradford.

Westgate, G. Signposting career opportunities in cosmetics. *Personal Care Magazine* March 2023; 48-50

## International Symposium on Inclusivity

Dr Sobia Kauser was an invited speaker for the **International Learning and Teaching Special Interest Group** and gave a talk entitled "Promoting Inclusivity in the Laboratory Environment".

## Brad iCOUNT Funding

Dr Yvonne Nyathi and Milena Ibiid (one of the biomed technical team) have been awarded £1350 worth of funding for a Brad- iCOUNT, EDI focussed project entitled: Attainment Gap and Belonging for Mature Students at Bradford University; A Holistic Approach.

The project will look at current practises around integration of mature students [an often-neglected group] into different schools across the university and how processes can be improved to enhance their student experience, attainment and sense of belonging.

Dr Sobia Kauser's application for the Brad-iCOUNT funding was also successful. Sobia has been awarded a small grant £1500 for the following project: Towards the Designing of Inclusive Teaching Laboratories of the Future

## FHEA

Congratulations to Dr Pete Nicholls for obtaining his Bradford Fellowship Teaching qualification in the latest round.

## Biomedical Science Benchmark Statement

A national working group has been working on updating the benchmark statement and the University of Bradford has been represented for EDI as well as Learning, Teaching and Assessment by Dr Sobia Kauser. The new statement has now been launched. Related to this, Sobia has joined the regional IBMS EDI group as a committee member. It is great to see that Sobia's work on EDI is being more widely recognised.



## UK RAISE

Dr Kirsten Riches-Suman attended the national conference on embedding belonging and community into higher education from the beginning of the student experience, hosted by the University of East Anglia. There were many useful suggestions for how to increase belonging in students whose educational journeys have been inevitably impacted by the pandemic. There were also useful reflections on how belonging has changed for staff as well.

## Student Feedback for the Teaching Technicians

We all know how incredibly hard our teaching technicians work to keep the School practical provisions running smoothly. This spring, we have had some fantastic feedback from our students to share with you all! Here is some of the feedback for the Biomedical Science teaching technicians from BSc students who completed their studies in the G floor labs over the summer:

Your expertise, kindness and friendliness were really exceptional and I am so grateful for all the help. Thanks to your support, I really enjoyed these 4 weeks and had a lot of fun. Keep up the good work!

Very friendly and useful staff/lab techs. Many thanks to all the technicians for their efforts and most of all..... Patience!

The technicians and staff have been very friendly and welcoming. Very understanding of the fact that we were the cohort that didn't have any sort of lab experience in the beginning due to covid and have worked with us the best way possible. 4 weeks went by very fast but it has honestly been the best experience out of the whole degree and very sad that it's ending.

Lovely helpful and kind technical staff. No improvements needed! ☺

I love all the technicians they are all so friendly and cool! They are the best ♥

Very helpful technicians, always helped with a smile and this was greatly appreciated

Very good environment and not as stressful as I thought

Everything went very well. The technical staff were very helpful anytime I needed something or needed help understanding something they were always willing to support. Thank you.

The past four weeks have flown by. All technicians have been exceptionally supportive and kind. I was incredibly nervous but this lab experience (and my research project) would never have been as successful without their support

The technical staff all made G floor a great environment to learn in



# Admissions and Outreach

## Admissions

The Outreach and admission teams have been working hard over the last few weeks to promote our courses, including a visit to Crossley Heath School. We have some upcoming visits from Nelson and Colne College as well as a Teachers and advisors conference in July. It has been a bit quite with Easter holidays and the number of applicants has remained steady. We still have one AED coming up on Wednesday 10 May followed by a number of Open Days. We still need a volunteer for Open day on Saturday 7 October and 18 November.

Please complete the spreadsheet: [https://unibradford.ac.sharepoint.com/:x:/r/sites/chembio-allstaff-group/\\_layouts/15/Doc.aspx?sourcedoc=%7BF0E93598-51E2-43A0-8975-5743AA1CD704%7D&file=2023%20Open%20Days.xlsx&action=default&mobileredirect=true](https://unibradford.ac.sharepoint.com/:x:/r/sites/chembio-allstaff-group/_layouts/15/Doc.aspx?sourcedoc=%7BF0E93598-51E2-43A0-8975-5743AA1CD704%7D&file=2023%20Open%20Days.xlsx&action=default&mobileredirect=true)

We are approaching 'Clearing', the busiest time of year. We are hoping not to rely on this for our numbers again but is an important part of our recruitment. There will be a call for training, can all staff please make sure they attend. This year ALL offer holders will be put through to talk to academics so we need more academics than previous years.

Spreadsheets for Biomedical science and Chemistry clearing rota have been posted in the same folder as above on Sharepoint, please complete ASAP.

**Dr Mark Sutherland**, Director of Marketing and Admissions

## Research in Schools

**Dr Yvonne Nyathi** was a panel member at the International Day of Women And Girls in Science organised and hosted by the Institute of Research in School [IRIS]. She spoke live to pupils from 18 school in the North of England and their teachers explaining her research and its impact. Students were very enthusiastic and wanted to know what led her into her field of research, what were her favourite subjects in school and what advice she would give to girls interested in science. Yvonne thinks these are important questions to consider about how our research and teaching can inspire the next generation of scientists.



## I'm a Scientist

**Dr Tom Swift** participated in the **I'm A Scientist** online panel, a Sci-Comm initiative with multiple live chats with school groups scheduled across the month of March. Some information, and open questions for the panel can be found here: <https://molecule23.imascientist.org.uk/>

His public profile can be found here: <https://molecule23.imascientist.org.uk/profile/thomasswift/>

## National Geographic

**Dr Gisela Helfer** was interviewed by National Geographic to provide comments on a new study published in Nature Communications on naked mole rats. The study showed that naked mole rats, that can reproduce their entire lives, create new eggs after being born. Gisela explained to the National Geographic readers why this is an exciting new finding and how naked mole rats can help us to understand human reproduction. The full article can be found here: Naked mole rats are fertile until they die. Here's how that can help us. ([nationalgeographic.com](http://nationalgeographic.com))

# Admissions and Outreach

## School visits

Dr Juanvi Canet-Perez has been out and about visiting school as part of his admissions tutor role. On Monday 13<sup>th</sup> March, Juanvi and Dr Antony Scimone visited **Oldham Sixth Form College** as part of **British Science Week**. Juanvi delivered a talk focused on the Biomedical Sciences programme and its careers options and led an activity where students learned how to use a micropipette with accuracy and precision. Students also did a short micropipetting competition. Antony took the students through observing (at 40x, 100x, and 400x magnification) and sketching the fruiting bodies and spores of typical 'bread mould' fungi – presumed *Aspergillus* sp., and *Penicillium* sp. This led to a Q+A on how antibiotics are produced, followed by determining the susceptibility of *S. aureus* and *K. pneumoniae* against a range of antibiotics (Kirby-Bauer disc-diffusion assays). Students engaged with these hands-on activities and enjoyed the session. Feedback was great, so much so that we have!



The following week, Juanvi visited **Batley Girls High School**. The initial talk covered future pathways to Higher Education at University of Bradford, describing in more detail the Biomedical Sciences programme and its careers options. Then, the 20 students attending the session engaged in the short micropipetting competition where they learned how to use a micropipette with accuracy and precision. Then, they observed three specimen slides using a compound light microscope. Students learnt how epithelial tissues are classified and were able to identify the type of epithelial tissue and organ present in each slide.



Both staff and student feedback was excellent for both sessions. We have already been invited by OSFC staff to deliver a similar session next year, and BGHS staff want to bring students to campus so that they can see our great facilities and carry out an outreach session in our teaching labs.

## Café Scientifique

We had some great Café Scientifique talks over the last few months (including my own!), with diverse topics ranging from policing to obesity to flat screens. I spoke about 'The healthy fat that makes you thin' she discussed new research from her lab showing that medium-chain triglyceride (MCT) oil can suppress appetite and reduce inflammation, a common symptom of diabetes.

The next event will take place on May 18, 2023 at 6:30pm with Dr Dianne Wepa celebrating Wellbeing week followed by two speakers from our own School. **Dr Kirsten Riches-Suman** will lead the Café Sci on 22 June discussing how diabetes affects your heart health and **Dr Yvonne Nyathi** will discuss how protein aggregates drive disease on 20 July.

For more information and to book your free tickets please visit the National Science Media Museum website or follow us on twitter @BfdCafe.

<https://www.scienceandmediamuseum.org.uk/whats-on/cafe-scientifique>

We are now working on the programme for the next academic year. If you know of any good speakers or any topics that you want us to cover, please get in touch.

Programme director **Gisela Helfer**



# Admissions and Outreach

## Pint of Science

Next month, Bradford is hosting the **Pint of Science** festival. Held over three nights, seven speakers will be taking part from the School of Chemistry and Biosciences. Tickets are £5 – please do support our staff in their public engagement activities! You can read all about it and buy tickets here: <https://pintofscience.co.uk/events/bradford>

### Monday 22<sup>nd</sup> May, Theatre in the Mill:

**Staying Alive:** Alan Dix is 75 and the Artistic Director of Bradford based 509 Arts. With **Professor Anne Graham** he is creatively exploring the lived experience of his journey towards his eighth decade. Anne is a scientist who knows a lot about the theories of healthy ageing. Alan knows what ageing feels like. Together they will weave together the science and poetry of getting older and maybe help the audience predict their own lifespan. Come along and find out!

### Tuesday 23<sup>rd</sup> May, Theatre in the Mill:

**Blood vessels: Ageing, disease and repair:** Our blood vessels are amazing and work hard each day to ensure every part of our body has the blood supply and energy it needs to work properly. However, just like us, our blood vessels can get stiffer with age (or disease) and then they don't work quite so well. Join **Dr Kirsten Riches-Suman** and their team to learn more about the way our blood vessels work, what can go wrong, and what we are researching to try and fix any problems and improve patient treatments.

**Is your drink pesticide free? A cleaner approach of delivering agrochemicals and saving the planet:** Pesticides are found in various concentrations in our drinking water across all continents, except Antarctica. This is due to heavy usage of pesticides to enhance crop production to meet global demand of food. However, the majority of pesticides ends up in environment and ground water. This is the time to reflect on this and act on to change the way how the pesticides are applied. Please come along to learn more about a novel approach **Dr Sanjit Nayak** is working to address this global problem in CCESH (Coordination Chemistry for Energy, Sustainability and Health) Group at University of Bradford.

### Tuesday 23<sup>rd</sup> May, Brewdog Bradford:

**The healthy fat that makes you thin:** No one wants to overeat, yet many of us are fighting a never-ending battle with our hormones and ancient, instinctive brain circuits to try to control our body weight – often unsuccessful. But there is hope! MCT (medium-chain triglyceride) oil is a supplement that has become very popular. It's low carb, high fat content is thought to make people feel fuller for longer and makes blood glucose control easier. It may also help reduce common symptoms of diabetes. Join **Dr Gisela Helfer** on a journey through cutting-edge neuroscience research to explore how your body weight is controlled by your brain.

### Tuesday 23<sup>rd</sup> May, Café Liza:

**A hair raising adventure:** Join **Dr David Ansell** on a journey under the scalp as we explore the fascinating world of the hair follicle. Our tour around the hair follicle will take in all the major sights and reveal what causes hair greying and baldness. Learn why some people have naturally curly hair and others straight, plus much more.

**Determining the fate of gametes: do they have free will?** Where do tumours affecting our reproductive organs come from? These tumours are most common in young people, suggesting that events early in our lives influence whether they will develop. In this talk, **Dr Peter Nicholls** will explore the origins of these tumours, revealing a fascinating journey of both pre-determination and free-will in the early embryo.

### Wednesday 24<sup>th</sup> May, Brewdog Bradford:

**From organ-on-chip to patient-on-chip: new technologies in medicine:** The world of science has moved on from the days of Frankenstein, and we no longer have access willy-nilly to any parts of the body we're researching, so scientists have to come up with innovative solutions to mimic organs in the lab. So, what are organs on a chip and how are they revolutionising medicine? **Dr Giulia Grimaldi** will explore the benefits and limitations of this new technology, how they are changing drug discovery and personalised medicine.



## PhD Successes

We have had a bumper crop of PhD students pass their PhD vivas this quarter – congratulations to all on getting your doctorates:

**Mohammed Ben Sharada** gained his PhD on 'The geochemistry of submerged marine landscapes; under the supervision of Dr Ben Stern, **Dr Richard Telford** and Prof Vince Gaffney. His examiners were Prof Kirsty Penkman and **Dr Philip Drake**.

**Gazala Layas** completed her thesis on 'The development of a liposomal form Secukinumab an IL-17 pathway inhibitor in the treatment of psoriasis'. Her supervisors were **Dr Mojgan Najafzadeh** and **Prof Diana Anderson**, with Dr Ausama Atwan and Dr Venu Vengala as examiners.

**Paul Norton** completed his PhD entitled 'Surface engineered novel patterned polymers to remove pathogenic biofilms from human skin'. Paul was supervised by **Prof Julie Thornton**, **Dr Maria Katsikogianni** and Dr Chien-Yi Cheng (University of Newcastle). His external examiner was Prof Matt Hardman and **Dr Mike Fessing**.

**Sumaia Sabouni** had her viva on 'Prediction of large for gestational age infants in ethnically diverse datasets using machine learning techniques' under the supervision of **Prof Anne Graham**, Prof Rami Qahwaji and **Dr Krzysztof Poterłowicz**. Her examiners were Dr Waleed Al-Nuaimy and **Dr Andrew Tedder**. Sumaia recently became a mother and the examining team were happy for her to suspend the viva so she could breast feed using the breast feeding room that the School EDI committee lobbied for. It also meant she did not have to suspend her studies in advance of the viva as she was really keen to complete without a long delay. She passed with minor corrections, and celebrated with her ten-week-old child and family.

**Rachael Williams** successfully defended her PhD entitled 'The ageing hair follicle environment'. Rachael was supervised by **Prof Julie Thornton** and Prof Des Tobin (University College Dublin). Her external examiner was Dr Claire Higgins and her internal examiner was **Dr David Ansell**.

**Congratulations to our newest doctors!**





## Fortnight Get-together and Seminar Series for PGR ChemBio Cohort

An initiative to bring our PGR community together through a **Fortnight get-together and seminar series** is underway. This will run under the simple ethos: "by the PGR for the PGR", with our PGR students at the centre of this activity, and taking full ownership.

The series will include:

- Bi-weekly seminar
- Presentation (Research/Literature) by PGR students and/or invited speakers
- Invited speakers will be decided based on training needs/proposal by PGR students.

A SharePoint space will be created to manage and share relevant information. More information to follow.

For any information or feedback, please contact Dr Sanjit Nayak at [s.nayak@bradford.ac.uk](mailto:s.nayak@bradford.ac.uk)

## Student Societies

We have two societies for our students – **ChemSoc**, and the **Biomedical Science Society**. Did you know you can even join both if you fancy it? Please keep an eye out as to how to join and all the different events that they put on – it's a great part of being an undergraduate. While you're at it, why not follow the School on twitter - @UoBBio and @UoBChem to find out all our latest developments.



## Join our LinkedIn Groups

LinkedIn is a great tool for building your professional network, showcasing your skills and can even lead to employers contacting you, rather than the other way around. Here at Bradford we have our own LinkedIn groups so please, sign up for your free LinkedIn profile at [www.linkedin.com](http://www.linkedin.com) and join the community!

**Bradford University School of Biomedical Sciences**  
**Bradford University School of Chemistry**

