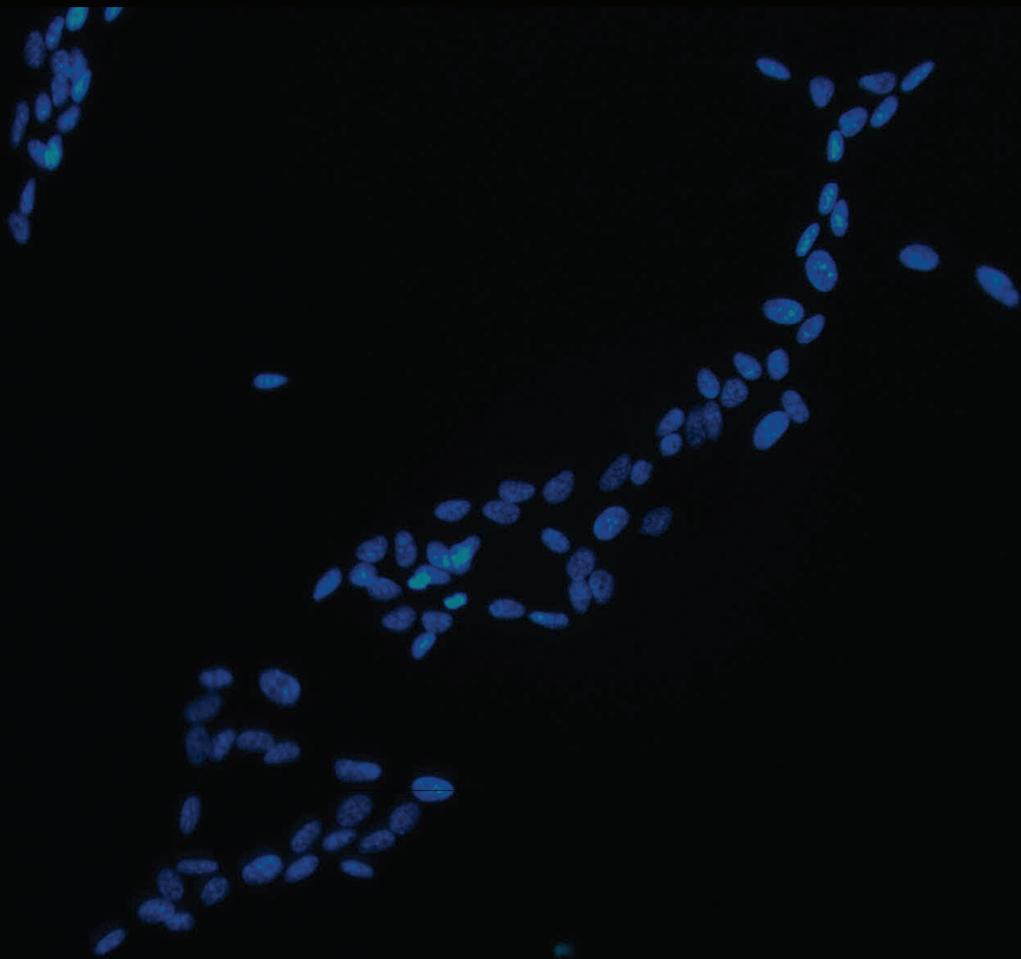


**Sheffield
Hallam
University**

**Biomolecular
Sciences
Research Centre**

**Newsletter
Autumn 2016**



SILVER

Athena SWAN

Charter for Women in Science

NEWSLETTER

AUTUMN 2016

This newsletter is a brief update of the activities over the last 4-6 months in the Biomolecular Sciences Research Centre, Sheffield Hallam University, which is the hub for all research activity that staff in the Department of Biosciences and Chemistry undertake; this includes supervision of PhD students, externally funded research and consultancy projects and lots more! Undergraduate students, masters students also have access to the research centre labs and facilities during their courses, particularly during project time.

We hope that you will find it interesting.

Recent doctoral completions

We would like to congratulate the following PhD students who have all passed their PhD vivas since the last newsletter was published:

Marina Liaskos (nee Schlüter) has passed her PhD entitled "The Role of the Urothelial Mucosa in Bladder Mechanosensation". Her supervisory team included Director of Studies Neil McKay, first supervisor, Dr Kim Lawson, second supervisor, Dr Gail Haddock. Marina was funded through the European FP7 People ITN 2008 scheme. The title of the grant was 'Training Urology Scientists to develop treatments'. Marina worked closely with colleagues at the University of Sheffield as well as with other EU partners. Date of completion: 22nd February 2016

Yasitha Illangasekera has completed his PhD entitled "Genetic Polymorphisms and Lifestyle Factors Associated with Obesity in Sri Lankans". Dr Caroline Dalton was his Director of Studies. Yasitha's studies were funded by Dr Devaka Fernando, Kings Mill Hospital, Sutton-in-Ashfield. Date of completion: 17th March 2016

Khaled Alshamaki passed his PhD entitled "The Microbial Ecology of Hospital Sink Units". Dr Karen Stanley was his Director of Studies and Professor Tom Smith is second supervisor. Khaled's studies were entirely funded by the Libyan Embassy. Date of completion: 4th May 2016

Siriluk Veerasakul, PhD student in the Department of Anatomy, Faculty of Medical Science, Naresuan University, Thailand, has passed her PhD entitled "The role of GABA neurotransmission in the effects of drugs of abuse" at Naresuan University, Thailand. Luk spent a 6-month training placement under the supervision of Professor Gavin Reynolds and Dr Caroline Dalton in the BMRC in 2014/5.

Katherine Mounsey, Senior Clinical Scientist in the Transplant Immunology Laboratory, St James's University Hospital, Leeds, completed her professional doctorate entitled "Immunological Profiling in Renal Transplant Recipients receiving an Antibody Incompatible Kidney" on 5th August 2016. Her Director of Studies was Prof Nicola Woodroffe and her supervisor was Dr Brendan Clarke from St James's University Hospital Leeds.

Front cover kindly provided by Aimee Paskins, PhD student – neuroblastoma cells in culture, the nuclei are blue as a result of the DNA stained with the dye DAPI

Dr Priya Shanmugarajah, who undertook some laboratory work in BMRC, was awarded her MD degree from the University of Sheffield for her research on alcohol-related cerebellar degeneration and ataxia, supervised by Prof Nicola Woodroffe.

Recent BMRC graduates taking up positions

Both **Ekta Patel** and **Nicola Wright** have secured positions; Ekta will be working for Kratos Analytical Ltd North West as an Applications Specialist while Nicola has started her role as Research Assistant at the Faculty of Health and Wellbeing, based at Collegiate Campus, working for Dr Charmaine Childs on an MRC confidence in concept funded project investigating use of thermal imaging to detect early infections following caesarean section.

New faces and visitors to the BMRC

New academic staff in the Department of Biosciences and Chemistry

We've had 5 new staff starting:



Lucy Crooks: Lucy joined us as a senior lecturer. She is a bioinformatician with expertise in analysing large genomic data sets. She has a degree from Cambridge and a PhD from the University of Edinburgh. She worked as a Post Doc on diverse projects for eight years and most recently as the bioinformatician for diagnostic genetics at Sheffield Children's hospital. Lucy is designing a new BMS

MSc module entitled Human Genomics and Proteomics, which will start in January. Her research focus is utilising next generation sequencing data to identify the genetic causes of disease.

Sarah Forbes: Sarah was appointed lecturer at Sheffield Hallam University after completing a BSc and PhD in microbiology at The University of Manchester. Her research is focused within the fields of antimicrobial chemotherapy and microbial ecology and she has taught both undergraduate and postgraduate students on microbiology and immunology programs.



Dan Kelly: With a degree in human biology and psychology from Aston University, Dan undertook a PhD at Sheffield Hallam University to investigate the effects of testosterone on atherosclerosis before moving to the University of Sheffield to continue this research as a Post Doc. Focus shifted towards testosterone's tissue-specific metabolic actions and how these relate to cardiovascular risk and type-2 diabetes in males using cell culture systems, pre-clinical models and medical trials of testosterone replacement. Dan has been appointed as a lecturer in biochemistry.

Laura Cole: Laura was appointed to a lecturing post at Sheffield Hallam University having completed a BSc Biomedical Science and a PhD in cancer research. She is Course Leader of the BSc. Biomedical



Science Course and fellow of the Higher Education Academy. Her research interests include Proteomics and Mass Spectrometry Imaging to investigate tumour progression and treatment resistance mechanisms .

Chris Whiteoak: Chris was appointed as a lecturer in Inorganic Chemistry in 2016 having completed his MChem (University of York, 2004), PhD (Imperial College London, 2010) and post-doctoral research positions in France and Spain in the field of catalysis. He teaches Inorganic Chemistry and has an active research programme focusing on the development of new transition metal-catalysed C-H functionalisation protocols and the use of carbon dioxide as a renewable chemical feedstock.



New doctoral students:

Our new doctoral students are starting on Monday 3rd October 2016:

Full-Time

Lauren Bateman is working under the supervisory team of Dr Dan Kelly (Director of Studies), Dr Caroline Dalton (Supervisor 1) Prof Hugh Jones (Barnsley District General Hospital) (Supervisor 2) on a project entitled *Investigating the anti-inflammatory effects of testosterone on atherosclerosis*. Barnsley Hospital NHS Foundation Trust and the BMRC are sponsors of this project. Lauren will also attend the Doctoral Training Alliance meetings.

Paula Chirila's project is called *Development of a new Cobalt-Catalysed protocol for preparation of Beta-amino acids for medicinal chemistry application* and she will be working under the supervision of Dr Chris Whiteoak (Director of Studies), Dr Alex Hamilton (Supervisor 1) and Dr K Miller (Supervisor 2). The sponsor is the HWB Graduate Teaching Assistant Studentship Scheme.

Emma Henly is working on a BMRC sponsored project under the supervision of Dr Sarah Forbes (PI), Dr Mel Lacey (Supervisor 1) and Prof Tom Smith (Supervisor 2). The project title is *Combined efficacy of microbicides and quorum sensing inhibitors in uropathogenic Escherichia coli*.

Sophie Hutchinson will be working with Director of Studies Prof Tom Smith, BMRC, and Supervisor Dr Graham Stafford, Department of Clinical Dentistry, University of Sheffield on a project entitled *Investigation of plant products for the development of new antimicrobial drugs*. The BMRC is funding this studentship and Sophie will attend the Doctoral Training Alliance (DTA) meetings.

Philip Lane's project *A study of small molecule probes for the lysine specific demethylase 1 enzyme* is under the supervision of Director of Studies Dr Simon Turega, Supervisor 1 Dr Alex Hamilton and Supervisor 2 Dr Caroline Dalton. This is a Vice Chancellor's Scholarship award to Philip with the BMRC funding the consumables.

Part-time

Neil Simmonite supervised by Director of Studies Prof Tom Smith is working on a project entitled *Evaluation of laser treatment for fungal nail infections* and is sponsored by the University of Huddersfield. Neil is employed by the University of Huddersfield as Head of Division Podiatry and Clinical Sciences, School of Human and Health Sciences and is doing his PhD on a part-time basis.

We also have two **Erasmus students** with us, **Shanna Hogeling** from the Netherlands is working with Catherine Duckett, Rob Bradshaw and David Smith. Her project is entitled 'Development, application and comparison of element-tagged antibody detection in whole blood and trace biofluids, via ICPMS, MALDI-MS and ELISA'. She is here for 6 months, sponsored by the University of Amsterdam and ERASMUS, completing her MSc Forensic Science and MSc Biomedical Science. **Jasmin Gattringer** from Austria is working with Dan Kelly. Jasmin is developing an *in vitro* model of an artery to investigate the cellular mechanisms of atherosclerosis with her consumables money coming from a grant from the Society for Endocrinology.

Rafael Chowdhury is working with Jaime Young, (for more info see the Commercial team update), while Professor Gavin Reynolds is supervising **Benjamard Thaweethee** from Thailand. Ben is a sponsored researcher and will be staying with us until 11th June 2017. She is in receipt of funding from the British Council (Newton Fund) and the Thailand Research Fund.

Finally, our new **Integrated Masters** students are: Andrew Davies, Sarak D'Ullivo-Rogers, Alice Fantom, Luke Flannery, Ashley Gains, Rachel Gatenby, Lauren Hatfield, James Hough, Mathew Rafferty, Sarah Rennicks, Jack Roberts, Jack Slater, Emma Surplice, Jim Toy, Andrew West and Ros Williams.

Conference round-up

Hasan Aldewachi attended the **Conference on Optical Chemical Sensors and Biosensors** in Graz, Austria where he presented a poster. He also attended the **Nano 2016** Conference in Quebec, Canada, where he gave an oral presentation.

Cristina Russo presented a poster and won the Best Poster Award at the **British Mass Spectrometry Society Imaging and MALDI SIG** event held at Sheffield Hallam, in April 2016.

The Mass Spectrometry group, led by Prof Malcolm Clench, went to the **American Society for Mass Spectrometry** conference in the US in June 2016. Participants at this year's event, which was held in San Antonio, Texas, were Prof Malcolm Clench, researcher Rebecca Day and PhD students Ekta Patel, Ieva Palubeckaite, Lisa Deininger and Cristina Russo.



Ines Ramos, post-doctoral researcher, attended the **European Committee for Treatment and Research in Multiple Sclerosis** conference in London where she presented a poster. She was also an invited speaker at the **Infrared and Raman Discussion Group** conference at Sheffield Hallam. Both events were also attended by Prof Nicola Woodroffe.

The best oral presentation prize was won by Lisa Deininger at the **British Mass Spectrometry Society Annual Meeting** event held in September in Eastbourne. The title of her presentation was *Out damned spot! - Bottom up proteomics for the analysis of bloodied fingerprints*. Dr Simona Francese also attended this conference where she chaired one of the

sessions. Aimee Paskins also delivered a talk at this, Cristina Russo and Becky Mason presented posters and Emma Beasley attended, as well as Dr David Smith and Dr Tom Bassindale.

The Faculty Poster Prize at this year's **HWB Research Day** held in July went to one of our doctoral students Ranwa Elrayess, from Egypt.

Nottingham Trent University hosted the **DTA Biosciences Summer School** which was attended by PhD students Alex Andrews, who won best poster presentation, and Kirstie Rawson.

PhD student Rachel Hodgson's poster entitled *Characterisation of the functional significance of eIF2B bodies in leukoencephalopathy with vanishing white matter* won the Best Poster Prize at the **Translation UK** event held at the end of August at the University of Surrey.

Doctoral student Karl Norris and Dr Sue Campbell attended the **Translational Control Meeting** in Cold Spring Harbor (CSH), New York in Sept 2016. Both presented posters and Karl received a Biochemical Society travel grant and funds from CSH to attend this meeting.

Commercial team update

The Commercial team in the BMRC continues to work on a number of contract research and consultancy projects. We have recently signed a contract with Dyckerhoff Pharma, a German company, to provide RNA analysis for their products using LC-MS. We have also signed a large contract research project with University College London, to analyse hair samples for the presence of illegal substances and drug biomarkers. In collaboration with Dr Tom Bassindale, this has allowed BMRC to employ a new placement student, Rafael Chowdhury, who will be carrying out the laboratory analysis. We have also started projects with other companies such as Almirall in Spain (detecting the skin penetration of a topically applied compound), quantitation of polyamines in bacterial culture media for the University of Bristol and NMR analysis for AF Chempharm. Dr Jillian Newton from the commercial team will also be working on a BBSRC funded project in collaboration with Professor Malcom Clench and the University of Swansea on cholesterol metabolic flux.

Public engagement

Christine Le Maitre and Catherine Duckett are running a number of public engagement events on the Virtual Reality Prosthetics- Body and Mind project (a 217k Wellcome Trust Society grant) which will engage the public in cutting edge biomedical and technological research. Interactive experiences and standalone artefacts relating to real-life challenges will stimulate interest, excitement and debate about joint physiology, limb loss, and the psychological impact of prosthetic choice and use. Website <https://vrprosthetics.shu.ac.uk>; Twitter @VRProsthetics. The first events are 25th-27th October at Millenium Galleries, then 12th-13th November at Weston Park, before going nationwide in 2017.

The 2016 Kroto Research Inspiration Award, a video competition to present “my research story”, went to **Dr Dan Kelly** while at the University of Sheffield for his video aimed at the general public to describe his latest research on the metabolic actions of testosterone. The study revealed that testosterone differentially regulates specific key enzymes involved in glucose and lipid metabolism, particularly in the liver and subcutaneous adipose tissue. By doing this it is believed

that testosterone may prevent fat accumulation in other more pathologically relevant tissues. In fact it showed that testosterone reduced the development of fatty liver and atherosclerosis. This may explain why men with low testosterone are at increased risk of type 2 diabetes and often have a negative body composition with more fat and are at a greater risk of dying from heart disease.

The first session of the Stocksbridge Science Club at the Inman Pavilion on Saturday, 7th May 2016 was a resounding success with children and adults taking part. The BMRC set up a number of interactive stands with interesting and informative topics for this event and brains, hearts and spines could be seen and handled. The stands were manned by **Prof Nicola Woodroffe** and researcher **Ines Ramos**, as well as PhD students Joseph Snuggs, Abbey Thorpe and three Erasmus students.



Dr Kim Lawson participated in an awareness video for fibromyalgia developed by Adelaide Arthur of Multimedia Journalism, University of Westminster, the video can be viewed here: <https://youtu.be/HakVhzly-N0>.

Ines Ramos and **Prof Nicola Woodroffe** attended the multiple sclerosis event MS Life 2016 (<http://excel.london/whats-on/ms-life-2016>) at the Excel Centre in London, which was held on 17th and 18th September. This event is aimed at the general public with talks and workshops on everything MS. They presented an interactive stand called 'Meet the Scientist' where they talked to people with MS and their families about the science behind the condition.

Travel grants

Hasan Aldewachi received a £250 travel grant from the **Royal Society of Chemistry** to attend EUROPT(R)ODE XIII - Conference on Optical Chemical Sensors and Biosensors, held in Graz, Austria.

Mootaz Salman received travel grants from various organisations, including the **Guarantors of Brain Travel Award** for £800, £450 from the **Company of Biologists Travel Fund** from the **Society of Experimental Biology** and £274 from the **British Pharmacological Society Bain Memorial Bursary Fund** to attend a conference in Yokohama, Japan, organised by the **Japan Neuroscience Society**, where he gave an oral presentation. He also received the **Gordon Young Investigator Travel Award** which waived 50% of the registration fee of the Gordon Research Conference (GRC) and Gordon Research Seminar (GRS) "Phosphorylation and G Protein Mediated Signaling Networks" held in Maine, USA, in June 2016.

Ieva Palubeckaite received a travel grant for \$200 to attend the annual **ASMS** (American Society for Mass Spectrometry) event in the US.

Cristina Russo received a travel grant for £300 to attend the **BMSS** (British Mass Spectrometry Society) event taking place in Poland in October 2016.

Abbey Thorpe received a travel grant from the **Royal Society of Chemistry, Materials Chemistry Division** over £600 in May 2016 to attend the World Biomaterials Congress in Montreal.

Karl Norris received a £425 travel grant from the **Biochemical Society** to attend the Translation Control Meeting (along with \$200 from the conference organisers).

Athena SWAN accreditation

Earlier this year, the BMRC was successful in applying for renewal of its Athena SWAN Silver Status. This was led by our Athena SWAN Champion, Dr Caroline Dalton. The award specifically recognises the commitment to advancing the careers of women and to addressing the under-representation of women in STEMM. The award trophy has now been received and we are thinking of 'going for gold' in the next run!

If you would like any further information on Athena SWAN or if you have any comments on gender related issues, please get in touch with Caroline.

Media round-up

Dr Kim Lawson addressed the Health Secretary and other MPs on Wednesday, 11th May 2016 at a parliamentary event that aims to raise awareness of the incurable chronic pain condition, fibromyalgia. Kim has been discussing research into the cause of fibromyalgia and the potential treatments with Jeremy Hunt and Andrea Jenkyns MP of the Health Select Committee as well as other key stakeholders from across the health sector. To read more, please go to <https://www.shu.ac.uk/research/specialisms/biomolecular-sciences-research-centre/news>.

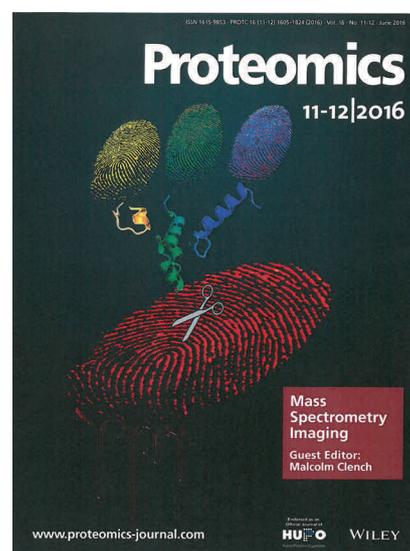
Based on her project data while a Masters student under **Dr Neil Cross**, Henna Khalid has had her paper *PAD4 Inhibitors: potential sensitizers of tumour cells to TRAIL-induced apoptosis* accepted by Biosciences Horizons. The journal's editor also commended her on doing such a thoroughly good job of making the detailed revisions, rebutting some of the points and for an excellent graphical abstract of the paper. Very well done Henna and Neil!

BMRC doctoral student **Callie Seaman** is measuring the effects of hydroponics in a laboratory: <https://www.youtube.com/watch?v=DHjB4mxmweg>. This film was commissioned by the Wellcome Trust to support school lessons with 11- to 14-year-olds as part of The Crunch schools resources.

Dr Tom Bassindale, BMRC expert on sports doping, blogged about the drug Meldonium, offering a different angle on a widely reported story which led to him speaking to BBC Sport, Radio 5Live and subsequently featuring in the Daily Mail, The Times of India and other international publications.

Dr Simona Francese's design was chosen for the front cover in PROTEOMICS Special Issue: Advances in mass spectrometry imaging, June 2016, Volume 16, Issue 11-12, Pages 1605–1824. The issue was edited by Professor Malcolm Clench.

Danny Allwood's article *Iterative reactions of transient borinic acids enable sequential C-C bond formation* was mentioned in Chemistry World's February editions in the article '*Forbidden chemistry*' drives carbon bond forming sequence.



We now also have two additional **twitter** accounts to the general BMRC one (@bmrcsheffhallam), focusing more on our taught courses in the Department of Biosciences and Chemistry: @shu_bio and @shuchem.

In other news

Research funding news: **Prof Neil Bricklebank, Dr Keith Miller and Ms Louise Freeman-Parry** from BMRC in conjunction with Prof Chris Breen and Dr Francis Clegg from MERI and Dr Joey Shepherd from University of Sheffield have been awarded a grant from the Medical Research Council (MRC) Confidence in Concept Scheme for £43K. About the project: Infected chronic wounds are one of the biggest challenges to healthcare because they are difficult and, consequently, expensive to treat. In the UK there are approximately 200,000 individuals suffering from a chronic wound (predominantly leg ulcers, pressure ulcers, and diabetic foot ulcers) at any one time. The majority of these patients are elderly and/or diabetic and are mostly cared for by nurses in the patient's home or in community-based settings. The annual direct cost to the NHS of caring for patients with chronic wounds is estimated to be near to £4 billion. Failure to treat the infection effectively can have a major impact on patient quality of life requiring hospitalisation and leading to life-threatening sepsis; UK government statistics for 2011 clearly identified bed sores to be a contributory factor in almost 800 patient deaths. The most common treatment for chronic wounds is the topical application of an antibiotic or antimicrobial agent called a biocide, or dressing containing a biocide, which exerts a broad spectrum of non-selective antibacterial action. The biocides act at multiple sites within microbial cells, reducing the likelihood of bacteria multiplying. The effectiveness of the biocides varies considerably. We have developed a new dressing that delivers the biocide for up to 7 days and which is extremely effective against a range of bacteria frequently encountered in infected wounds. The aim of this project is to complete additional cytotoxicity testing on the dressing and evaluate its efficacy in a tissue model that replicates the real-world environment of a patient's skin. The data obtained will enable us to attract clinical and commercial partners and move the project forward along the translational pathway so that the socioeconomic benefits of the dressing can be promptly realised.

EU grant awarded to **Malcolm Clench** and **Tom Bassindale**: As part of a larger successful EU grant awarded to Valerie Curran, Professor of Psychopharmacology at UCL, the commercial team led by Prof Malcolm Clench and Dr Tom Bassindale have been successful in being awarded £69,508 for a contract research project working for Prof Curran. The funding will be used for some of Tom Bassindale's time, mass spectrometry instrument usage and consumables and to pay for a University placement student to carry out the work. The project will last for one year starting in September 2016 and will be for the analysis of 1900 hair samples to quantify levels of alcohol, MDMA, cocaine, mephedrone, amphetamine and ketamine, THC and cannabidiol.

Dr Mel Lacey has been awarded a grant from the Society for Applied Microbiology over £9,683 for a Microbiology Game. Expected start date is September 2016 for one year. The project involves designing and creating a web-based microbiology game to teach bacterial structure and function. The first section of the game will be selecting the shape of the bacterium and attaching various structural elements from a variety of options. Learning about the various structural elements and their function will be embedded in this stage. This bacterium will then be named and 'released' into the environment. The environment the bacteria then find themselves in will be from a preselected bank which is designed to highlight the variety of habitats bacteria inhabit and how their structure allows them to survive and thrive (or not!). To promote increased engagement the players will score points depending on how well their bacteria thrives in an environment and

at the end of the game there will be a leader board. This game will then be used in undergraduate teaching and outreach. The game will be created using student researchers under the supervision of Dr Jacob Habgood with the educational content provided by Dr Melissa Lacey. The first iteration of the game will be tested and feedback received from Sheffield Hallam students studying Microbiology and school pupils from partner schools. Using the feedback the game will be revised and published as an open-access game on an independent website and disseminated to Sheffield Hallam students studying Microbiology and school pupils from partner schools as well as the general public through a series of outreach events. The successfulness of the game to teach microbial structure and function as well as inspiring individuals to undertake Microbiology at a higher level will be ascertained.

A grant from the Society for Endocrinology over £19,332 was awarded to **Dr Dan Kelly**; this is an award from when he was working at the University of Sheffield. The project is entitled 'Developing *in vitro* artery model for invest diabetic atherosclerosis' and started on 21st April 2016 for one year. Coronary heart disease is recognized to be the cause of death for 80% of people with diabetes, and with the incidence of type-2 diabetes continuing to grow exponentially, these alarming statistics persist. There is an increasing need for understanding the detailed mechanisms of diabetes-induced atherosclerosis to develop new and improved therapies for the cardiovascular consequences of diabetes.

Advances in this area have come from observations in genetically modified and/or high-cholesterol, high-glucose diet-fed animal models. However, extrapolation from animal to man is limited by fundamental species differences in terms of metabolism, cardiovascular physiology, plaque morphology, and particularly the failure of atherosclerotic lesions in animals to progress towards the unstable plaques seen in human pathology.

In the faculty of engineering and the cardiovascular department at the University of Sheffield, single cell microfluidics models have been used to assess endothelial function and the application of co-culture vascular systems are in the early stages of development. In collaboration with these partners, we aim to develop an accessible *in vitro* co-culture human vascular model of atherosclerotic plaque development to investigate pathological endocrine mechanisms.

Neil Bricklebank, Catherine Duckett and Malcolm Clench have been awarded a Business Interaction Voucher by the BBSRC Metals in Biology NIBB for a project with Croda PLC for their project entitled *Studies into the Uptake and Distribution of Metal Oxide Nanoparticles in Plants*. (01/12/2015 - 31/05/2016).

Centre for Mass Spectrometry Imaging (CMSI)

Mass Spectrometry Imaging (MSI) describes a group of label-free imaging techniques that can be used to study the distribution of a range of compounds in biological tissues and other sample types. The Centre for Mass Spectrometry Imaging (CMSI) is dedicated to the advancement of these techniques and their application to problems in biological, pharmaceutical and environmental analysis. The Director of the Centre is Professor Malcolm Clench working with Dr Simona Francese, Dr Tom Bassindale, Professor Neil Bricklebank and Dr Catherine Duckett, Dr David Smith and Dr Neil Cross.



To find out more please visit their webpage:

<https://www.shu.ac.uk/research/specialisms/biomolecular-sciences-research-centre/what-we-do/commercial-services/mass-spectrometry>

Doctoral students **Mootaz Salman** and **Hasan Aldewachi** took part in Sheffield Hallam's *Three Minute Thesis* competition, with Mootaz reaching the internal final. Congratulations to Mootaz!

For a third time, **Nikki Jordan-Mahy** has been awarded the Inspirational Teaching prize and is now also recipient of the Vice-Chancellor's Award.

Christine Le Maitre is the winner of this year's Inspirational Research Supervisor Award.

Chain Reaction is a three-year project funded by the European Commission which aims to develop Inquiry Based Science Education (IBSE) across twelve partner countries. The project will provide interactive and engaging IBSE professional development to teacher education professionals from each participating country using tried and tested inquiry based science resources. As part of their STEM ambassador activity, doctoral students **Hasan Aldewachi** and **Mootaz Salman** took part in the Chain Reaction Project, a national student conference for secondary school students held at the University, where they acted as expert judges for the oral presentations and took responsibility for the marking process of participants. The winning team will represent the UK at an international conference in Bulgaria.

Nuffield placement scheme: During the month of August, doctoral students **Karl Norris** and **Rachel Hodgson** took on two Year 1 college students as part of the Nuffield placement scheme and **Dr Simon Turega** took on another student too.

Dr Kim Lawson has been invited to be guest editor of a special issue of the journal *Biomedicines*, entitled "Drug Therapies for the Treatment of Fibromyalgia" to be published in April 2017. (http://www.mdpi.com/journal/biomedicines/special_issues/fibromyalgia).

Successful summer studentships

Dr David Smith, **Dr Tim Nichol** and **Dr Mel Lacey** have been successful in gaining summer studentship bursaries from The Biochemical Society, the Dr Hawden Trust and the Society for Applied Microbiology to support five of our undergraduates for 6-8 week placements in BMRC labs. These are highly competitive awards and it is great to see our second year undergraduates being successful.

Dr Hadwen Trust: Ashley Gains worked on a project called *Creation of a 3D gastrointestinal culture model to study the influence of commensal bacterial on gut growth and differentiation* under the supervision of Mel Lacey.

Society for Applied Microbiology: Lauren Hatfield's project was entitled *Antibiofilm solgel coatings* under the supervision of Tim Nichol.

Biochemical Society: Angela Hoare worked on a project called *Synuclein DNMT* with David Smith as supervisor.

Society for Applied Microbiology: Ben Hunt's project was called *Thermal Imaging*. He worked under the supervision of Mel Lacey.

Microbiology Society/Harry Smith Vacation Studentship: Mollie Renshaw's project was entitled *Characterisation of the differential gene expression of alkene monooxygenase from Rhodococcus rhodochrous B-276* and she worked with Mel Lacey.

Publications

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