

Welcome!

Welcome to our first High Force Research Bulletin of 2017!

We may only be a couple of months in, but 2017 is already proving a busy year for High Force Research.

From new appointments to exciting news of our work helping to 'sprout' potential breakthroughs in the treatment of neurological disorders, it's been all systems go – and with lots of new projects in the pipeline, it looks set to be a great year!

I hope you enjoy reading our latest issue of the HFR Bulletin and I look forward to speaking and meeting with you soon, whether at one of our three sites around the UK or one of the many events HFR will be attending in the coming months.

If I can be of any assistance or if you would like to find out more about High Force Research and our work, please do not hesitate to get in touch.

Stella

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Dates for your Diary

- 2nd March - Molecular Diagnostics, Newcastle
- 16th March - BIA Breakfast, Alderley Park
- 21st March - Challenges for chemistry in molecule imaging, Royal Society of Chemistry, London
- 28th March - Practicalities of Cellular Analysis, Newcastle
- 29th - 31st March - SCI PRD Symposium, Cambridge

- 30th March - The Future of Swedish and Danish Life Science, Lund
- 4th April - H2O2O Brokerage Event, Cambridge
- 27th - 28th April - Symposium on Medicinal Chemistry, Hatfield
- 8th - 10th May - BioTrinity, London
- 17th May - Bionnale 2017, Berlin
- 23rd - 24th May - BioDundee, Dundee
- 13th - 14th June - Chemistry Means Business, Manchester
- 19th - 22nd June - Bio USA, San Diego
- 27th - 28th June - BOS CMC, Basel

HFR Expands its Business Development Team

High Force Research is strengthening its Business Development team with the appointment Newcastle University postgraduate Jennifer Wallis.



Head of Business Development, Stella James, welcomes Jennifer Wallis to High Force Research's Business Development Team

Jenny, who featured in the last HFR Bulletin, recently completed her EngD and has spent the last four years studying the synthesis of fluorescent dyes for use as imaging agents, potentially to help identify cancer cells. Her research, undertaken with EngD supervisor Dr Lee J. Higham of the School of Chemistry, was co-funded through the EPSRC EngD programme and High Force Research.

Jenny commented: "I was very lucky to receive funding from High Force Research to support my EngD, which they co-funded alongside the EPSRC EngD programme. Without their support I would never have been able to continue with my research.

"As part of that EngD course, I undertook a number of business development modules - an area I find fascinating - and as a result I became interested in pursuing a career in it, so when I heard High Force Research was looking to expand its Business Development team I jumped at

the opportunity! I'm delighted to have joined such a highly-regarded business at this exciting time and look forward to working with Stella and the rest of the team to continue to grow the business further."

Commenting on Jenny's appointment, Head of Business Development, Stella James said: "We're delighted that Jenny will be joining the High Force Research team. Over the last eighteen months we've seen significant growth in our business and we're proud to work with a range of organisations both in the UK and further afield - from universities to multinational corporations and specialist discovery, virtual and biotech companies.

"As pharmaceutical, biotech and fine chemical industries increasingly look to out-source a number of their activities, we want to make sure we're well placed respond to their new business needs. Jenny will play a key role in this and her skills and experience will be a great addition to the team."

HFR Chemist Celebrates PhD Success!

High Force Research R&D Chemist, James Fleming, is celebrating after successfully passing his Chemistry PhD viva!

James, who joined High Force Research a year ago and is based at its Wilton Centre laboratory, recently completed his PhD on the 'Synthesis and Characterisation of MOP-phosphonite Complexes and their Applications in Asymmetric Catalysis.' His postgraduate research was supervised by Dr Lee J. Higham, of the School of Chemistry at Newcastle University.

Commenting on James' success, High Force Research's Dr Neil Sim said: "We're thrilled that James has completed his PhD. James is an integral member of our Wilton Centre team and achieving his PhD is testament to his dedication and skill as a chemist - he should be really proud of his achievement!"



High Force Research R&D Chemist, James Fleming, pictured at the Wilton Centre

HFR Sprouts About New Research!



High Force Research hit the headlines over Christmas, as a new research project proved to be news worth sprouting about!

The project, which is being led by a team of scientists at the University of Aberdeen in conjunction with Durham University and High Force Research, is researching a synthetic version of retinoic acid usually created from vitamin A – a vitamin most commonly found in a number of vegetables, including carrots and sprouts – which it is hoped may be used to treat neurological disorders.

In the body vitamin A is turned into retinoic acid, which then interacts with specific receptors in the brain and plays a role in the development of the human central nervous system. Retinoic acid is particularly important for the eye and brain as the embryo is developing and in the adult brain is thought to affect degenerative and psychiatric neurological disorders.

Scientists from the University of Aberdeen, Durham University and High Force Research have collaborated to design a synthetic version of retinoic acid that interacts with the body's natural receptors in the brain in an even more powerful way than regular retinoic acid.

Professor Peter McCaffery, who is leading the project said: "We are basically trying to create a massively amplified version of what vitamin A already does for the body. By exploiting the natural consequences of retinoic acid by creating a synthetic alternative, we hope to be able to create a new therapeutic which could be used to help people with Alzheimer's disease.

"There are other projects of a similar nature but they are focused on different receptors and we are confident that our compound will prove to be more successful. Added to that, our unique screening process is an exciting innovation which should increase the efficiency of the process and could have implications beyond this particular project."

Professor McCaffery will work alongside Dr Iain Greig and Professor Bettina Platt at the University of Aberdeen and Professor Andrew Whiting from the Durham University. The team is set to begin a new two year, £250,000 project funded by the Biotechnology and Biological Sciences Research Council (BBSRC) to test the synthetic retinoids. It is hoped the research will contribute towards the development of therapeutics – primarily for Alzheimer's but potentially Parkinson's disease and other neurodegenerative diseases.

Coverage of the research project appeared across numerous health, science and news titles, including The Daily Mail, Express and Sun.

HFR Welcomes New Wilton Centre Team Member!

High Force Research has welcomed University of Durham Postgraduate, David Chisholm, to its Wilton Centre team.

Having recently completed his Biological Chemistry PhD course at Durham University, David has spent the last four years studying synthetic retinoids. His postgraduate research, undertaken with Ph.D. supervisor Professor Andrew Whiting from Durham University's School of Chemistry, was sponsored by High Force Research.

David who will be continuing his research into synthetic retinoids and their potential uses for treating Alzheimer's and Parkinson's, will be based at High Force Research's Wilton Centre laboratory working with Professor Andrew Whiting and the University of Aberdeen team. His post-doctoral research is being co-funded by the Biotechnology and Biological Sciences Research Council (BBSRC) and High Force Research.

Commenting on his new role, David said: "Having the opportunity to continue my postgraduate research thanks to the joint funding from the BBSRC and High Force Research is really exciting – and I'm thrilled to be joining the team at the Wilton Centre. It's a privilege to

be part of a research project that could have such a profound impact on how we treat neurological conditions such as Alzheimer's and Parkinson's disease."

High Force Research's Dr Neil Sim said, "We're delighted to be welcoming David to the Wilton Centre. Whilst David will be focusing on the synthetic retinoid research project with Durham University and the University of Aberdeen, it will be great to have him working alongside our team and we're looking forward to observing how his research progresses."



University of Durham Postgraduate, David Chisholm, is joining HFR's Wilton Centre Team

Fluorescent Retinoids Sample Test Kits



Special sample test kits containing three Fluorescent Retinoid derivatives produced by High Force Research and Durham University are being offered free to research institutions.

The synthetic retinoid compounds are both highly stable and highly fluorescent and as a result can be used as 'visual probes' providing a completely new way of observing drug and biological behaviour.

If you would like to receive a free Fluorescent Retinoid sample kit, please contact Dr Stella James at stellajames@highforcerearch.com

HFR to Join DIT Life Sciences Trade Mission to Boston

High Force Research will be joining a Department for International Trade (DIT) Life Sciences Trade Mission to Boston in March.

The visit is part of a programme of international Trade Missions, Export Taster Visits and dedicated Trade Adviser support being provided by the DIT to companies and organisations in the Northern Powerhouse.

A major hub of America's Life Science sector, the visit to Boston will include opportunities to meet with companies from within the pharma, biotech, medical device and digital health sectors, as well as major universities.

Please do get in touch to let us know if you will also be travelling to Boston or to arrange to catch up at one of the many events and conferences that High Force Research will be represented at in coming months. Please contact Dr Stella James at stellajames@highforceresearch.com



HFR's flying chemist, Emma Whelan, has been taking to the skies as she passes her Private Pilot's Licence

HFR's Flying Chemist Takes to the Skies

High Force Research Quality Control Scientist, Emma Whelan, has been taking to the skies as she passes her Private Pilot's Licence.

Emma, who is no stranger to passing tests with flying colours, has been awarded her Private Pilot's Licence (PPL) just six months after beginning her flight training.

A graduate from Northumbria University with a degree in Biomedical Science, Emma first got a taste for flying when she joined the University Air Squadron in 2011. She immediately caught the flying bug but was unable to pursue flying lessons at the time. However, in July 2016 Emma re-started her flight training with pilot training and testing specialists PTT Aviation Newcastle and after just six short months has completed her Private Pilot's License, qualifying her to pilot aircraft privately and with non-commercial passengers.

Speaking about her thrill-seeking ways, Emma explained: "Before I re-started my flight training with PTT I hadn't flown since university – I'd had three years without flying! But it had always been in the back of my mind as something I would like to complete. I have a hectic career and I had just bought a house to renovate, but I struggled to give up the desire to fly. I didn't have the time or the money to do both the renovation and the flight training so I chose to focus my attention on the flying first – I now have a half-renovated house!"

Whilst completing her training at PTT Aviation Newcastle, Emma woke at 4am most days so she could fit in her flying hours before starting her working day in the lab.

Emma continued: "I was worried I may have forgotten the basics but it all came flooding back once I was in the air – you don't forget. My first solo experiences were a little nerve-racking but very exciting, I flew around PTT Aviation's three schools from Newcastle to Leeds to Durham Tees and back to Newcastle. The route involved crossing military airfields, which I'd only done once before so I ensured I stayed clear – I didn't want to be shot down!"

Congratulations to Emma for being a flying success!



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