Chemistry Update

Newsletter 292, 18 December 2017

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Calendar of Events

Organic Seminar
Speaker: Dr Matt Powner, University College London
Date: Wednesday 10 January
Time: 1pm—2pm
Location: B/B/006

LGBT STEMinar 2018
Date: Friday 12 January
Time: 9am—6pm
Location: National STEM Learning Centre

Physical Seminar
Speaker**:** Dr Patricia Hunt, Imperial College
Date: Wednesday 17 January
Time: 1pm—2pm
Location: C/B/101

Research Seminar
Speakers**:** Dr Sarah Moller & Dr Kirsty High
Date: Friday 26 January
Time: 1pm—2.30pm
Location: C/B/102

Green Chemistry Seminar
Speaker**s:** Dr Robin White, Fraunhofer ISE
Date: Friday 26 January
Time: 3pm—4pm
Location: C/F/106

Date of Next Issue:
26 January 2017

North Sea Water and Recycled Metal Combined to Help Reduce Global Warming

Researchers in the Department of Chemistry have used sea water collected from Whitby in North Yorkshire, and scrap metal to develop a technology that could help capture more than 850 million tonnes of unwanted carbon dioxide in the atmosphere.

Researchers filled the aluminium reactor with sea water, taken from Whitby Bay, and waste aluminium.

High levels of carbon dioxide in the atmosphere are a major contributor to greenhouse gases and global warming. Carbon overload is mainly the result of burning fossil fuels, such as coal and oil, as well as deforestation.

Global efforts are being made to reduce carbon dioxide levels as well as find novel ways of trapping excess gases from the atmosphere. The team at York have now found a way to safely trap the gas as dawsonite, a solid mineral and natural component of the Earth's crust.

Professor Michael North, from the Green Chemistry Centre of Excellence (GCCE) said: "We wanted to look for methods of trapping the gas using environmentally friendly tools to produce a result that could be highly scalable to capture millions of tonnes of unwanted carbon dioxide.

"We started with the realisation that using graphite, the material used in pencils, to line aluminium reactors, results in the mineralisation of carbon dioxide. We wanted to trap the gas at much higher levels, using low-energy processes, so we decided to look at waste materials, such as scrap metals, to see if this could be done without using chemical agents as a catalyst."

Kitchen foil and food wrappings

Researchers filled the aluminium reactor with sea water taken from Whitby Bay, and waste aluminium such as that found in kitchen foil or food wrappings. The gas is transferred to the sea water inside the reactor. Electricity, captured from solar panels, is passed through it, resulting in the aluminium turning the dissolved carbon dioxide into the mineral, dawsonite.

Professor North said: "Tens of millions of tonnes of waste aluminium are not recycled each year, so why not put this to better use to improve our environment? The aluminium in this process can also be replaced by iron, another product that goes to waste in the millions of tonnes. Using two of the most abundant metals in the Earth's crust means this process is highly sustainable."

The research showed that 850 million tonnes of carbon dioxide could be mineralised each year using a combination of sea water, solar-powered electricity, and scrap metal, eliminating the need to use high energy gas-pressurisation and toxic chemicals to produce the same effect.

Hydrogen by-product

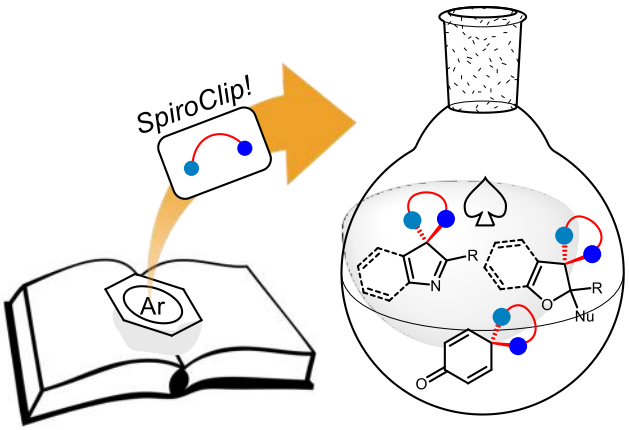
Unlike other electrical reaction systems for carbon dioxide treatment, hydrogen is not needed to cause the chemical reaction in the first instance, which would normally make the process more expensive.

Instead, hydrogen is produced from the electrical circuit and becomes a side-product of the process. Hydrogen gas, a non-polluting gas that is valuable to the future of fuel production at low cost and 'zero emissions'.

Researchers are now working to maximise the energy efficiency of the process and allow the hydrogen by-product to be collected and utilised, before seeking to build toward full-scale production.

This work is published in the journal *ChemSusChem*.

EPSRC Grant Win for WPU and RJKT Groups



From Catalogue... *To Complexity!*

Dr Will Unsworth (PI) and Professor Richard Taylor (co-I) have recently been awarded £451,905 from the Engineering and Physical Sciences Research Council (EPSRC) to support research into "Spiroclip Technology: from Catalogue to Spirocycle in One Step". The major portion of the grant will be used to employ a postdoctoral researcher for three years.

To address growing worldwide healthcare and food-security demands, rapid access to new 3-D organic compounds for biological screening is the key to continued progress in the pharmaceutical and agrochemical industries. However, current synthetic approaches to such compounds are often time-consuming and labour-intensive. This is especially relevant for spirocycles - a compound class that have been the focus of much research in the WPU and RJKT groups in recent years. The main aim of this new research programme is to build upon the groups' earlier work and to develop a series of bespoke reagents and novel synthetic methods that enable diverse spirocycles to be directly prepared from catalogue starting materials. Collaborations have been established with Lilly Pharmaceuticals and Syngenta Agrochemicals to test compounds produced in this project and Fluorochem are also on board as project partners to help with the potential commericialisation of new reagents developed in the project.

The 3 year PDRA position will be advertised soon with a planned start date of April 2018 - please feel free share this information with any contacts who you feel could be suitable for this post!

Roadside Air Quality Targets May be Met Ahead of Schedule

European estimates of nitrogen dioxide (NO_2) directly emitted from vehicles may have been overestimated, according to new analysis of public data by scientists based at the University of York.

Many European Union countries, including the UK, are struggling to comply with the legal limits for roadside levels of toxic nitrogen dioxide (NO_2), a problem attributed largely to the increasing use of diesel vehicles across the continent.

But according to scientists from University of York and the National Centre for Atmospheric Science, who have re-examined 130 million hourly measurements from 61 European cities, the future projections of roadside NO_2 air quality may be "overly pessimistic."

Gap in evidence

The team say the way vehicles are tested could be a factor in the findings as there is currently a "gap in evidence" on emissions as vehicles age.

Dr David Carslaw from the Department of Chemistry said: "Most projections of air quality are based on estimates of the total amount of NOx emitted from vehicle exhaust, but these do not correctly take into account the split between nitrogen oxide (NO) and nitrogen dioxide (NO_2).

He said: "The forecasts are likely pessimistic because they overstate the current fraction of emissions that is directly released as NO_2. This can have a large impact on NO_2 measured roadside, which is where the air quality standards are currently breached in many towns and cities.

"NO_2 coming from the tailpipe grew during the 2000s and was projected to stay high up to 2030, but actually around 2010 this trend reversed and the amount of direct NO_2 coming out of vehicles is now only around half the value used in policy predictions."

"The implication is that European cities may become compliant with NO_2 targets, probably ahead of schedule," added Dr Carslaw.

Implications for testing

Professor Alastair Lewis, from the National Centre for Atmospheric Science, said the data had implications for the way we currently test vehicles.

"Only new cars are tested for emissions and that is just for the total amount of NOx. Even the new

Europe drive cycle test brought in post-VW doesn't measure how much of the NOx is NO_2 and how much is NO.

"A new car probably gives the peak fraction of exhaust as NO_2 you will ever get, but as the car and exhaust system ages direct NO_2 potentially reduces over time. We need to test cars not just on the day they roll off the production line, but through the whole of their lifespan."

These important research findings should have significant impact on environmental policy, and have been widely reported, being featured by BBC News, New Scientist and many other media agencies worldwide.

Journal Honour for Professor John Goodby

Emeritus Professor John Goodby has been honoured with a special edition of the journal, *Liquid Crystals*.

The celebratory issue of the journal was published in honour of the professor's 65th birthday. It contains a collection of outstanding publications from leading scientists in liquid crystals from across the globe, including a number of contributions from colleagues in the Department of Chemistry at York, and a special article from Professor Goodby.

Dr Stephen Cowling, research fellow in the Department of Chemistry, organised the festschrift and took on the role as guest editor for the issue. He said: "It was a great honour to be able to compile this special collection to help celebrate the 65th birthday of Professor Goodby – a colleague I have known and respected for over 25 years."

The project came after a successful meeting held in York in 2016, entitled, "A life in liquid crystals," which Dr Cowling described in his preface to the issue as "a way of feeding back to John the respect and fondness that he holds within the community."

Professor Goodby has been at the University of York since 2005 when he was appointed Chair of Materials Chemistry. Despite taking retirement in 2016, he continues to be an active researcher and member of the liquid crystal community. He was appointed to an Emeritus Professorship in 2016.

Professor Goodby's awards include the GW Gray Medal of the British Liquid Crystal Society (1996), the Tilden Lectureship (2002), the Derek Birchall Medal (2013) of the Royal Society of Chemistry and the AkzoNobel UK Science Prize (2014). He was elected as a Fellow of the Royal Society in 2011, and was subsequently awarded with The Royal Medal of the Royal Society for his major advances and discoveries of new forms of matter and materials in 2016.

Chemistry Student Wins Intern of the Year

A final year Chemistry student at the University of York has won Intern of the Year for her innovative work with North Yorkshire Police.

Tanya Bayley won the accolade following a 12-week internship working with police to look at ways the force could better utilise their current equipment; such as laptops, computers and mobile phones.

Tanya's report produced 20 recommendations, nearly half of which have been assessed and agreed for implementation, with the rest currently being considered.

Tanya received her award at a special celebratory event at Heslington Hall which was attended by local businesses and University staff and students.

Benefit

Tanya said: "It is rewarding to know that my recommendations will have far-reaching effects, improving processes to benefit North Yorkshire Police and ultimately the public of North Yorkshire. I have thoroughly enjoyed this placement and it has allowed me to identify roles I would be suited to upon graduation."

Tanya was one of 94 York student interns who worked with local businesses and organisations over the summer vacation, delivering projects in areas as diverse as environmental consultancy, social media marketing and product development.

Students worked for businesses ranging from start-ups of one or two people through to large organisations such as Network Rail and City of York Council.

Rewarding

The Intern of the Year award was judged by Rachel Sellars, University Relationship Branch Manager, Santander UK and Mark Bates, Business Growth Executive, Make it York.

The Host of the Year award went to bespoke tailors Mullen and Mullen for providing challenging and rewarding projects which have allowed them to expand their online business with the help of University interns.

In recognition of the impact of York's internship programme, Santander Bank has recently increased the number of subsidies it makes available to support the costs of engaging an intern through the University. Over 50 subsidies are available for use over the next year and the University is now looking to engage employer hosts for summer 2018.

Read the full story at:
https://www.york.ac.uk/news-and-events/news/2017/campus/intern-of-year/

Erasmus Exchange to Share Good Lab Safety Practice

Bilge Yerdelen, a Laboratory Safety Specialist at Sabancı University, Istanbul, Turkey, chose the Department of Chemistry of the University of York as the best place to visit to undertake an Erasmus exchange to share good practice to improve lab health and safety.

Bilge's main focus is on chemical safety and hazardous waste management, however she also met with many specialists in other areas, such as Biosafety, Radiation Safety and Laser Safety, from both the Department of Chemistry and from across the wider University.

Local rules and policies were shared, and Bilge also attended various safety lectures and training in Chemistry and Biology, learning approaches and methods to take back to her home university.

The photo shows Bilge (left) with Jing Wood and Moray Stark after experiencing Yorkshire finest hospitality at a well-known local tea room.

Professor James Clark Appointed to French National Research Funding Agency Scientific Committee

Professor James Clark has been appointed to the ANR (French National Research Funding Agency) Scientific Committee for the French President's new initiative "Making our Planet Great Again". The scheme was announced by President Macron the day after the withdrawal by the USA from the Paris Climate Agreement with the plea:

"To all scientists, engineers, entrepreneurs, responsible citizens who were disappointed by the decision of the president of the United States, I call on them: Come and work here, with us."

The message was retweeted a record 230,000 times and has attracted over one thousand expressions of interest (https://www.makeourplanetgreatagain.fr/home). It is hoped to start projects worth some $60M in the first year and to catalyse the formation of a network of science and technology research projects each involving one or more French research centres and a (non-French resident) leading international researcher. Germany has recently announced that it will start a similar scheme.

EPSRC Dial-a-Molecule 3D Meeting in York

On 17 November, the Department of Chemistry hosted a major national conference on Synthetic tools for Exploration of 3D Pharmaceutical Space. The meeting was attended by over 90 delegates, including academics and students from all around the UK and Ireland, as well as several representatives from the pharmaceutical industry, most notably from GSK, Sygnature and Astex. The meeting featured a number of extremely well-received and insightful talks from researchers involved in the synthesis of 3D molecules and their use in drug discovery, expertly delivered by Professor Joe Sweeney (University of Huddersfield), Professor Rob Stockman (University of Nottingham), Dr Liam Cox (University of Birmingham), Professor Peter O'Brien (University of York), Professor Nigel Simpkins (University of Birmingham), Dr Susannah Coote (Lancaster University), Dr James Bull (Imperial College London), Dr Jeff St Denis (Astex), Dr Rob Young (GSK) and Dr Elaine O'Reilly (University of Nottingham). The meeting concluded with a fascinating keynote lecture given by Professor Erick Carreira (ETH Zurich) on his work on 'Recent Developments in Strategies and Tactics Towards Complex Secondary Metabolites as enabling tools for the Study of Natural Products Biology'. The photo below includes all the external speakers, along with York organisers Dr Will Unsworth and Professor Peter O'Brien and session chair Dr Paul Clarke.

Speakers and Organisers of the Dial-a-Molecule 3D Meeting

The aim of this free-to-attend meeting was to bring together researchers at all career stages, from industry and academia, to learn about and discuss recent developments in the synthesis, analysis and biological evaluation of 3D molecules and their pharmaceutical importance. It was also hoped that the day would inspire new research in the broad area 3D pharmaceutical space and help foster industry-academic collaborations. Based on the excellent feedback on the quality of the talks and the lively discussion throughout the day (which went long into the evening during the drinks reception!) we feel that this goal was well achieved.

The meeting was provided free of charge thanks only to the generous financial support of Dial-a-Molecule and our event sponsors Advion, Astex, Fluorochem, GSK and Radleys. Dial-a-Molecule is a Grand Challenge Network, funded by the EPSRC, with the broad remit of promoting research aimed at

a step change in our ability to deliver molecules quickly and efficiently. The network supports various meetings and events, lobbies on behalf of its members to ensure that synthesis remains at the forefront of research and development nationally and also funds original research; for more information, see: http://generic.wordpress.soton.ac.uk/dial-a-molecule/

Other highlights of the day included a demonstration from Dr James Firth of LLAMA (a free, open-access web interface able to predict the 3D shape and physical properties of molecules) and a lively poster session, in which 23 PhD students, postdoctoral researchers and academics presented their work, with prizes for the best posters awarded to Alexander Boddy (Imperial), Chris Jones (Queen Mary) Joan Mayol Llinas (Leeds) and Sam Griggs (York). We are also grateful to exhibitors from Advion (Andy Baker), Fluorchem (Heather Lambert and Ian Wrigley) and Radleys (Richard Buck) for contributing to a great day!

1. Radleys exhibition; 2. Poster winner Alex Boddy; 3. Susannah Coote
4. Fluorochem exhibition;
5. 3D Kit Kats!

Bring it On!

Nicky Waller from CIEC recently attended 'Bring it On!', a science and engineering event which was held at the Stadium of Light in Sunderland in October. It was the first event of its kind in the North East, bringing together national and regional organisations to showcase the amazing career opportunities there are open to young people in the region. The aim of the event was to inspire and motivate young people in primary and secondary education to choose science and engineering as their future career.

Nicky was asked to exhibit CIEC resources and materials, as part of the primary day. Many schools that had taken part in CIEC's Children Challenging Industry programme in Teesside attended the event with their teachers. Their day involved opportunities to talk to inspirational local individuals who have made a successful career in engineering as well as visiting seven fascinating zones to explore different aspects of engineering and understand the many contexts it is applied in.

Nicky with a selection of CIEC resources as well as a copy of the science book which she has recently had published.

New Starters

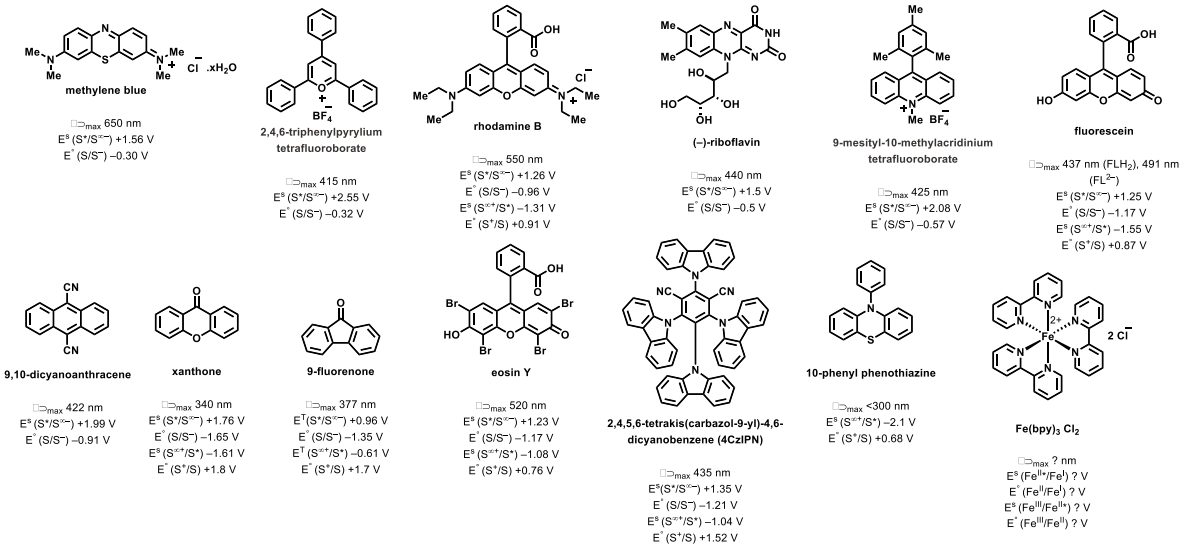
Richard Spears, PDRA in YSBL
Room: B020; Extension: 2594; Email: richard.spears@york.ac.uk

Joseph Houghton, PDRA in Green Chemistry
Room: C/F111; Extension 4547; Email: joseph.houghton@york.ac.uk

Photocatalyst Library Freely Available in York Chemistry

Dr James Donald and Dr Will Unsworth have been successful in obtaining a small EPSRC grant via the Dial-a-Molecule Grand Challenge Network, to assemble a library of photocatalysts to facilitate the development of new light-mediated reactions. The library has now been assembled, with structures and relevant redox potential data reproduced below (sorry it's a bit small!). Anybody interested in using any of these 30 photocatalysts in their research is welcome to do so (contact James or Will) provided that the grant (EP/P007589/1) is acknowledged in any arising publications.

For info on Dial-a-Molecule see http://generic.wordpress.soton.ac.uk/dial-a-molecule/



Dr Jon Agirre at Royal Society's Fellows' Induction Day

"On 21 November, The Royal Society were running an event for new research fellows. As a newly-appointed University Research Fellow (URF), it was a great opportunity for me to meet other fellows, learn about the opportunities provided by the Society and, last but not least, visit 6-9 Carlton Terrace for the first time. You might be wondering how in the world was I awarded a URF without going through the compulsory interview at the Society's headquarters, and quite rightly so! The reason is 7 months-old, is now learning to walk, and was born a couple of days after my interview, which I did remotely thanks to the Society's brilliant planning and infrastructure. I shall be giving more details on this thrilling episode of my life at the *Fellowships* day (16 March 2018 in C/A/122) event in the Department.

"A warm welcome by President Venki Ramakrishnan (co-recipient of the Nobel prize in 2009 for his work on ribosomes) paved the way for three talks on the opportunities of engagement with the Society. After this, the current research landscape was painted from three different perspectives, with Brexit featured as a recurrent motif. The open discussion that followed left no doubt on the general negativity felt within the scientific community on Brexit: in a room packed with about a hundred people, not a single comment deviated from the potential doom and gloom that is upon us.

"After the discussion, we switched the topic to Diversity in science, and we had a talk by Professor Andrea Brand FRS, who among other things covered the difficulties scientist parents experience at meetings with kids. Take home message: it all works out in the end. I could not agree more; both Dr Saioa Urresti and I are structural biologists, so we have had to travel with our kids to conferences. Aside from having YSBL teammates take care of our children while one of us chairs a session and the other one speaks at it (yes, it did happen), we have been lucky to realise early of the potential mobile

touch devices have for entertaining the little ones in absolute silence. Not that this was an option with the one, extremely well-behaved baby that came to the induction event with their URF mother! Times are changing, and I am pleased not to be a mere spectator while they do.

“The afternoon brought a group photo, sessions on public engagement, and a very useful breakout discussion, which I shared with Dr Harry Geranios (Department of Mathematics, University of York), the one other York URF in the 2017 cohort. Later, a drinks reception and dinner allowed me to network with the people I had previously met in the coffee breaks; may I stress here how utterly brilliant the other appointees are… each one of them brought a different proposition to the table, a different angle, all outstanding and interesting.

“Dinner was culminated with a keynote lecture by Professor Sarah-Jayne Blakemore (UCL), who outlined the different stages in her career in cognitive neuroscience, having received a URF to work on the particularities of the adolescent human brain. Groundbreaking. The next day, back in York, I downloaded a few articles on the subject so I could cement the ideas floated on in her lecture. My eldest daughter will be a teenager in no time!”

- Jon Agirre

Bishopthorpe Runners vs Cancer

In June 2017 my friend Alistair was diagnosed with Oesophageal cancer with secondary cancer in his Liver. Alistair has been fund raising for Oesophageal cancer research. In September and October he completed the 300 mile cycling challenge, the next challenge is for a team of 'runners' to complete the 2018 Brass Monkey (Half marathon). The team attempting this will be Jeff Wright, **Andy Goddard**, Dan Parker, Garry Flitcroft and Richard Mann. Alistair will complete assuming he’s fit enough by the date. Please could you consider sponsoring us:

https://fundraise.cancerresearchuk.org/page/bishopthorpe-runners-vs-cancer

- Andy Goddard

TechYork

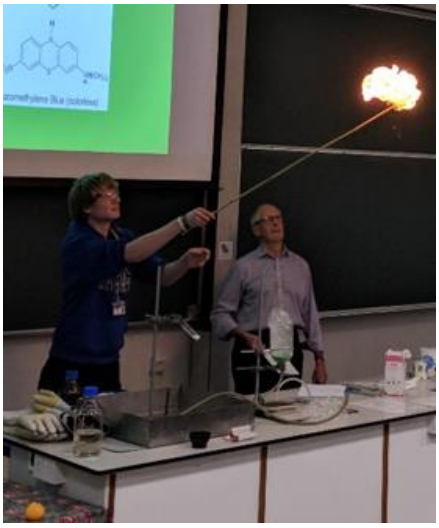
TechYork is a network for technicians at the University of York originally set up by the operations managers of the science departments. Earlier this year ten technicians from these departments took on the challenge to run the network, with the aim of highlighting the way technicians collaborate and work within all departments of the university.

Monday 4 December saw ninety members of the University technical staff converge on the Department of Chemistry for the first technician-led mini-TechYork conference.

Brian Fulton, Dean of Faculty for Sciences, opened the conference. He gave a short talk regarding the Technicians Commitment, of which York is a founding signatory. The commitment aims to ensure visibility, recognition, career development and sustainability for technicians working in higher education. Up next, the main event.

Professor Sir John Holman delighted and entertained the audience with his Chemistry at Christmas lecture. Demonstrations included using a flaming Christmas pudding to demonstrate the Maillard reaction and ice cream making with liquid nitrogen.

The perfect gas law, PV=nRT, with helium filled balloons and liquid nitrogen



Methane bubbles

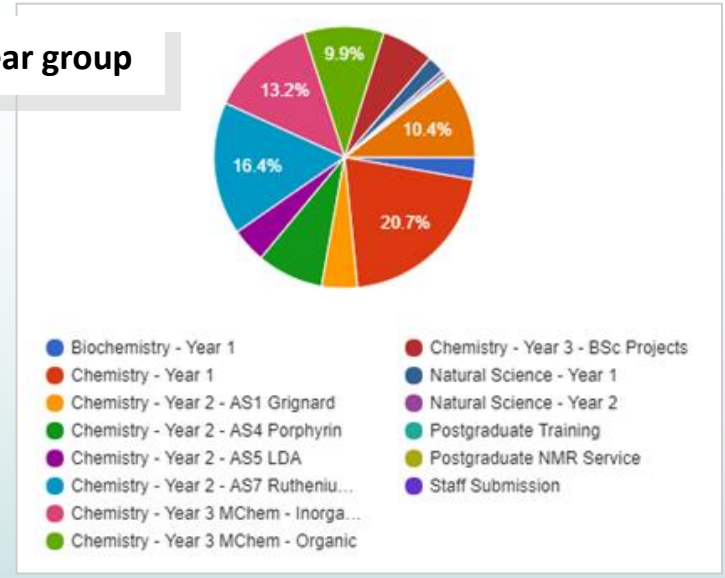
The conference ended with a chance to network over mince pies and mulled wine.

A Term's Work for the Teaching Labs Instruments

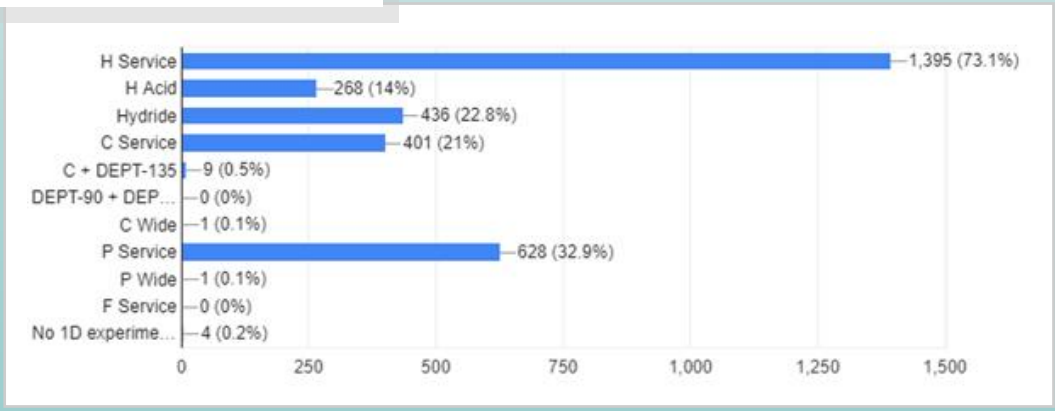
At the end of a busy term teaching labs, we thought it might be interesting to present a few statistics on some of our hard working instruments. The data is just for Autumn Term 2017:

NMR - 1909 Samples Run

Samples run by year group

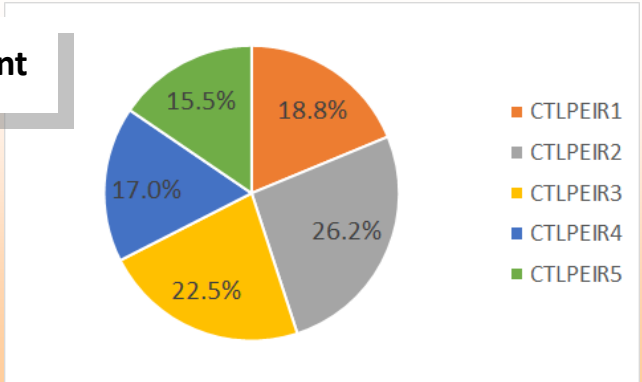


NMR Experiments Recorded



Infrared - 5226 Samples Run

Samples run by instrument



Equality & Diversity News

Case Studies Wanted

We are looking for volunteers who have benefited from the Department's flexible working arrangements to provide a short case study for the Departmental website and also the next Athena SWAN submission.

The purpose of the case studies is to provide examples of the different kinds of support and flexibility offered to both staff and students in the Department. This might be in terms of flexible working or managing career breaks for family, health or work-life balance reasons. We would really like a good mixture of different situations and individuals from all sections, career stages and genders to highlight the different kinds of support available.

We hope to give people an idea of what could work for them, examples of some previous case studies can be found on our family friendly working page of the website:
https://www.york.ac.uk/chemistry/ed/fam-friendly-work/

Please get in touch with Leonie Jones (leonie.jones@york.ac.uk) if you would like to discuss this informally or be involved.

Last Call for Registration for the LGBT STEMinar 2018

We now have over 150 people from around the country registered for the 3rd annual LGBT STEMinar which will be hosted by us at the NSLC on Friday 12 January 2018.

We have really good representation from Chemistry in the talks, with a keynote from Professor Tom Welton and a number of Chemists amongst the research talks and posters. The full programme can be found on the Chemistry events page.

Although the official deadline for registration is the 15 December, we will leave the form open for a few more days to allow anyone from York who has not already signed up to do so here:
https://lgbtstem.wordpress.com/lgbt-steminar-2018/

We are also looking for some volunteers to help on the day, so please get in touch with either leonie.jones@york.ac.uk or derek.wann@york.ac.uk if you can help.

Do You Need to Be a 'Genius' to Succeed in Academia?

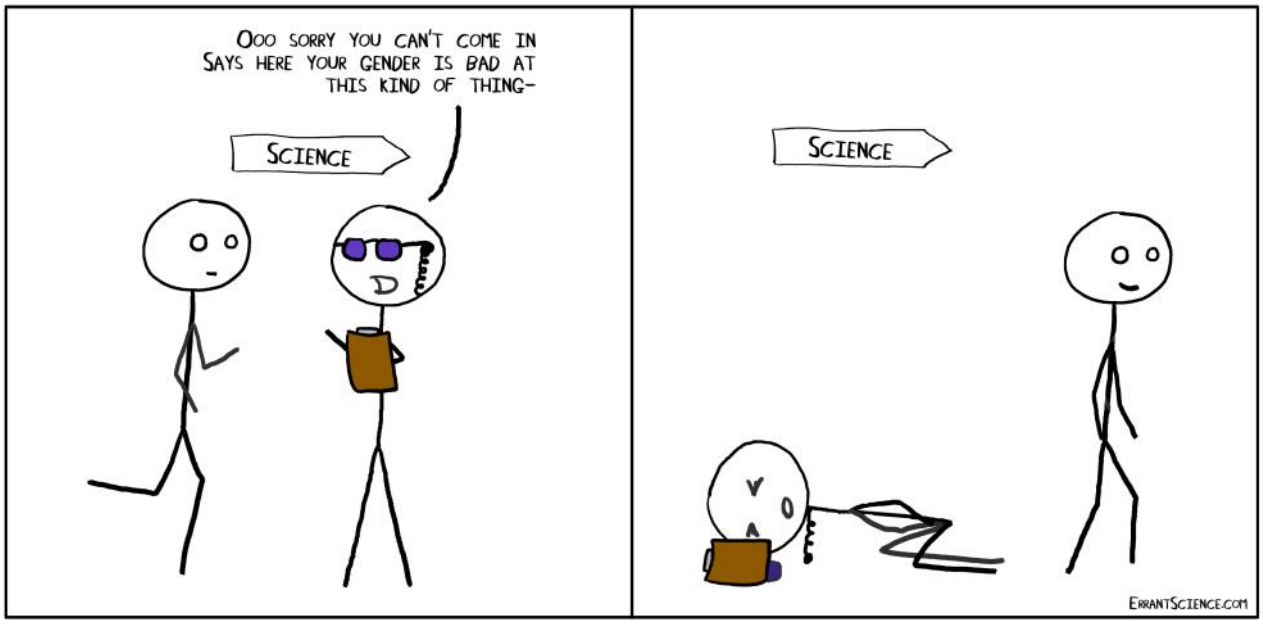
"Professor Robin Perutz and myself attended the Royal Society Annual Diversity Conference in London in November. This year's theme was *Confidence and Competence* and the keynote speaker was Professor Sarah-Jane Leslie, Princeton University who gave a fantastic talk. Many of you will be aware of her recent paper on children's attitudes toward 'brilliance' (Bian et al. (2017). *Science* 355, 389–391) which was widely reported. They observed that by 6 years old, girls are less likely than boys to believe that members of their own gender are 'really really smart'. In addition, at 6, girls were less keen than boys in a game they were told was for 'really really smart' children. There was no significant difference observed at the age of 5 or in a game for children who worked 'really really hard'. As a consequence, interventions aimed at encouraging girls into STEM subjects might need to start at an early age.

"We also heard that academic subjects that prize the 'brilliance' of their members, are less likely to be diverse in gender and racial makeup. It was suggested that in subjects where innate talent or 'genius' is valued above hard work, less confident but equally qualified individuals might be discouraged. For this reason, we should consider the language that we use and avoid using unnecessary words like *Outstanding, Talented or Exceptional* in job descriptions to avoid putting off less confident candidates.

"The whole day was recorded and is available on the Royal society website, (Sarah-Jane Leslie's talk can be found at 26 min) and I would highly recommend it.

"There is also an excellent summary article on the subject including both studies in Scientific American (September 2017), 317, 60-65."

- Leonie Jones



http://errantscience.com/blog/2017/10/18/anyone-can-work-science/

Research and Diversity Seminar: Professor Paul Wakeling

As part of the Department's Celebration of 10 Years of Chemistry Athena SWAN Gold we are holding a series of diversity Beacon Lectures that are open to all members of the University.

Professor Paul Wakeling, of the Department of Education, gave the first of these lectures on 5 December, and spoke on "*Equity and access to graduate study: an overview, with special reference to chemistry*". Paul is a sociologist of education with particular interests in higher education, especially access to postgraduate study; and social inequality.

Paul presented a range of interesting data on the academic pipe-line with particular reference to chemistry. Specific (often inadvertent) barriers to access to graduate-level education were discussed, including the importance of having objective selection criteria to avoid penalising less 'polished' students, the risk of using 'institution' as a proxy for quality of the individual, and specialised degrees versus more general degree programs. Paul presented striking data showing the predominance of graduates of elite universities, in the post-graduate chemistry population. The very low representation of individuals from several BAME groups amongst post-graduate students was also noted. Overall, this research challenges us to think about the way we select and recruit post-graduate students in our department, and should stimulate future EDG activities around graduate recruitment.

Towards the end of the talk, Paul presented some early findings looking at the career pathway of UK Chemistry professors. This research has explored the institutions where the professors studied, and the departments where they have ended up working. We look forward to seeing the full results published in the future.

It was fantastic to see a wide range of attendees at this event, with a mixture of staff and research students from across the University. There will be additional Beacon activities throughout our 10th anniversary year the highlight of which will be a scientific symposium and public lecture on diversity from Professor Carolyn Bertozzi from Stanford University, on 16/17 May 2018. For more details, watch this space.

Equality and Diversity Lunchtime Forum: Thinking about doing a PhD?

The most recent E&D lunchtime forum was aimed at students who are considering applying for a PhD or other postgraduate qualification.

The idea was for students to come along, meet some friendly PhD students and staff for a very informal chat over tea and cake. We hoped this would provide an opportunity to find out what doing a PhD really involves in a relaxed environment and perhaps ask some of the questions you've been afraid to ask.

The event was designed to be complimentary to the very successful 'official' event run by the graduate school each year and we hoped that we might reach some of the less confident students or those who were perhaps unsure if a PhD might be the right for them and first and second years who are starting to think about what they might do in the future.

Thank you very much to our PGR volunteers and members of EDG who did a great job of sharing their thoughts and experience, I think everyone found it a valuable and enjoyable session. If anyone has any ideas for topics for future E&D lunchtime forums, please get in touch with Caroline Dessent or Leonie Jones.

Collection for St. Leonard's Hospice in Memory of Robin Virgo

There will be a charity collection (until Wednesday 31 January) in the Graduate office and in CHyM, for St Leonards Hospice in memory of Robin Virgo. We are in the process of setting up a fundraising page through the St. Leonard's Hospice website which will be circulated via Chemcomms in due course.

A Compassionate Department?

"Are we a department in which we regularly show compassion and understanding to our colleagues? It's a good question to ask. Many of the things we strive to achieve through our Equality and Diversity group depend on us all working together within a supportive and understanding environment, in other words being compassionate and understanding towards each other. In fact, compassion lies at the heart of pretty much all equality work, the ability to see something from another person's point of view, to understand their concerns, and yes, to sometimes put our own wants second to their needs. Unfortunately, many of the demands on academic life can give rise to behaviours in which compassion for others can easily be lost, such as not properly sharing the credit for a piece of research work, or insisting on a fixed way of doing things without listening to others, or, because we don't have time - simply not noticing that others may be struggling. We are not alone in thinking about such issues. In her blog, Occam's typewriter, Athene Donald writes eloquently about the need for compassion.

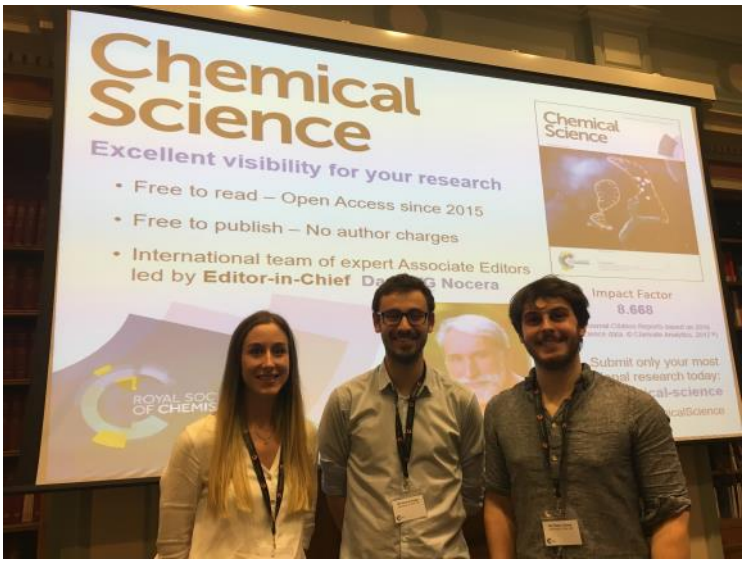
"In particular, she makes a plea for a culture in which we place first the needs of others. A message we will do well to heed if we are to continue to make progress on our own equality journey."

- Paul Walton

RSC Organic Division Poster Symposium

RSC, Burlington House, 4 December 2017

Aimee Clarke (supervised by Professor Richard Taylor), Sam Griggs (supervised by Dr Paul Clarke) and Phill Chivers (supervised by Professor Dave Smith) were 3 of 40 delegates selected from over 120 applicants to present their work at the prestigious Organic Division Poster Symposium. The event, dubbed the 'RSC's flagship event for Organic Chemistry' was held at the Royal Society of Chemistry at Burlington House, London. The event was well attended by members of academia and industry and proved to be an excellent day filled to the brim with exciting research. Aimee presented her work on the synthesis of spirocycles supported by silver-catalysis, Sam presented his work on the synthesis of 2-spiropiperidines, and Phill presented his work on the use of hybrid hydrogels for controlled drug delivery.



Pictured left to right: Aimee, Sam and Phill

A great day was had by all, and all three recommend the symposium to anyone approaching their final year of organic chemistry!

Getting the Most out of Google Drive in the Department of Chemistry

This is a quick reference guide. If you would like more detailed instructions please visit: https://www.york.ac.uk/it-services/services/drive/

Google Apps, including Google Drive and Google Docs, are provided as standard to all members of the University as part of their IT account.

Google Drive gives you the ability to store files in the cloud and access them from a wide variety of devices. You can use Drive to share files/folders with others which, if you allow, they can view, download and edit.

Google provides a web-based document suite which is integrated with Google Drive. It enables you to create and edit word processing documents, spreadsheets, slideshows (presentations) and forms. It also allows you to upload existing documents, with the ability to turn them into Google documents.

Helpful Hint

There is an option in Google Drive settings which enables you to automatically convert uploaded files to the Google Docs editor format. Whilst in Google Drive, click on the cog wheel (top right) and choose Settings. Put a tick in the 'Convert Uploads' box.

How to Access

- Login to your University email
- Click on the Google apps icon (nine small white square tiles on the upper right hand side of the screen)
- Click on the Drive icon (a triangle of green, yellow and blue)
- You are now on your Google Drive

Helpful Hint

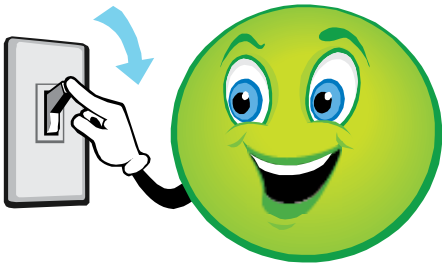
Look for the 'Add to My Drive' File option in files that have been shared with you. This creates a shortcut link to the file in My Drive. In My Drive, you can move these shortcut links into a personalised folder filing system that only you can see.

Key Features

- Document sharing and collaborative editing – allow colleagues to view your document and collaborate in real time
- Revision history – Keep track of all document changes or revert to an older version
- Organise your files – Manage your files using folders
- Upload/download files – Store files on your Drive or export them to your computer
- Access to all your documents on all devices (e.g. tablet, computer and mobile phone)
- Security – Restrict access to view or edit on a per person, per document or folder basis

Green Impact

Please Help Save Energy Over Christmas



The Chemistry Environmental Performance Group would like to wish everyone a happy and safe holiday.

Over the Christmas break, please can you ensure the following is turned off (preferably turn off at the wall):

- Computers
- Printers
- Monitors
- Lights
- Photocopiers
- Any equipment that does not need to be kept running over this period

Please turn down the heating to the minimum settings where possible (radiators, thermostat controls and thermostatic radiator controls). Please also turn off any air conditioning as well.

You can access your office PC (if it is managed) or an equivalent virtual PC and work remotely, please see https://www.york.ac.uk/it-services/work-off-campus/ and follow the links under 'Working off Campus'. If you just want to use your personal device, you can also log in to the Virtual Private Network (VPN). You can either install the pulse secure software or just use the more limited web-VPN. This allows you access to most webpages plus the central file stores, York Information Management systems and more.

Save Your Christmas Stamps!

Used stamps are collected and given to the Royal National Institute of Blind People (RNIB). The charity sells the stamps to generate revenue for their work.

Any and all stamps welcome!

Find a collection envelope located at **Chemistry reception**.

For help and advice on any green issues please contact chem-epg@york.ac.uk.

Christmas Fundraising – Christmas E-Cards

Save the environment, consider making a donation to charity and send e-cards instead!

For example see the following websites:

FREE! 123 Greetings http://www.123greetings.com/events/

FREE! http://ecards.co.uk/

FREE! https://www.hallmarkecards.com/

PAID… http://www.jacquielawson.com/

Tips to Save Energy over Christmas

- Heating - try not to turn the heating up too much - wrap up in a jumper/blanket instead and wear layers.
- Recycling - recycle as much as you can - you might even be able to recycle wrapping paper (check on your Council's website - may need to remove sellotape) or use up old Christmas cards for scrap paper.
- Food waste - try not to cook more than you need or try to use up left over food the next day or store in the fridge or freezer.
- Water - try to wash up rather than using the dishwasher (and turn the tap off between each use). Only boil as much water as you need in the kettle.
- Oven - don't open the oven door if possible as this wastes energy. Cook more things at the same time by using smaller oven trays, for instance.
- Fridge - don't open the fridge too often (leave the door open for a longer period of time while you take out the items you need is more efficient than opening and closing the door several times).
- Driving – try to reduce the number of trips you have to make, for example try to combine outings, go shopping fewer times. Also, in the cold weather, try not to keep your car running when you start it up in the morning (it is more efficient to go straight away – de-ice your car before you turn the engine on).

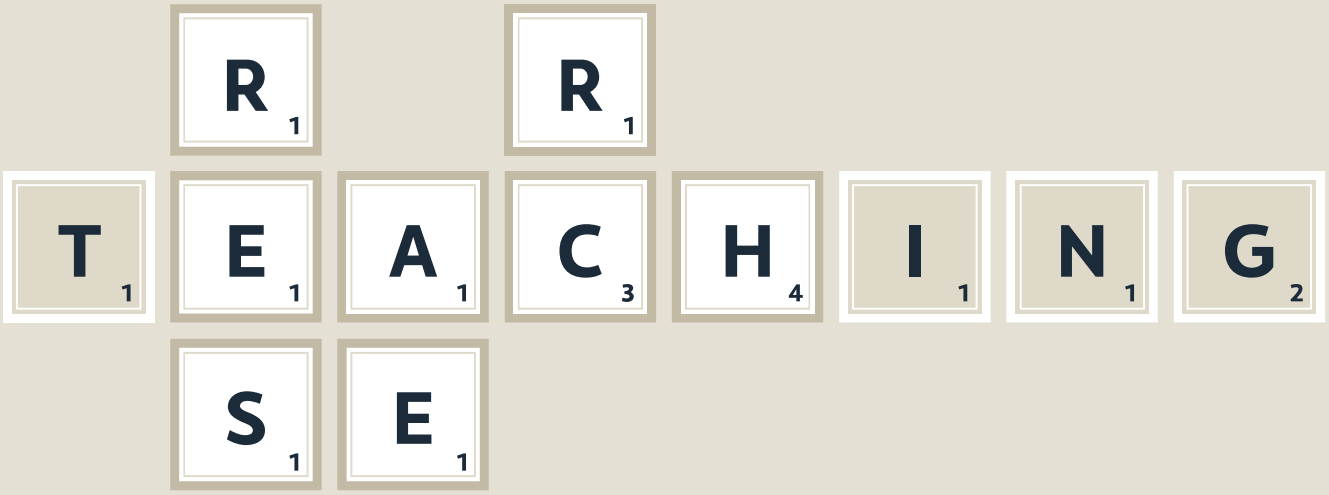
Online Department Suggestion Box

The online Equality and Diversity suggestion box has been extended to be a suggestion box for the whole Department. You can submit your thoughts / suggestions / ideas for general Departmental matters as well as matters relating to Equality and Diversity. You can find the Google form on the intranet homepage or at this link.

UNIVERSITY OF YORK
LEARNING AND TEACHING CONFERENCE

UNIVERSITY of York

RESEARCH-LED TEACHING IN PURSUIT OF EXCELLENCE



DELIVER A WORKSHOP, LIGHTNING TALK OR POSTER AT THE LEARNING AND TEACHING CONFERENCE ON FRIDAY 22 JUNE 2018

Excellent teaching goes hand in hand with excellent research. A creative relationship between research and teaching enhances the student experience, improves student employability and enriches the research culture.

CALL FOR
CONTRIBUTIONS

DEADLINE FOR SUBMISSIONS
15 FEBRUARY 2018

For more suggested conference themes, guidance and an application visit bit.ly/YorkLT18