Chemistry Update

Newsletter 286, 30th June 2017

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Calendar of Events

Open Days
Dates: Friday 30 June; Sunday 2 July
Time: 9am—4pm

Research Seminar
Speaker: Dr Judy Hirst, Mitochondrial Biology Unit
Date: Wednesday 5 July
Time: 11am—12pm
Location: C/A101

Sixth Form Chemistry Conference
Date: Friday 7 July
Time: 9.30am—4pm

Research Seminar
Speaker: Dr Alvin A. Holder, Old Dominion University, USA
Date: Monday 10 July
Time: 3pm—4.30pm
Location: C/A101

Inorganic / Organic Group Plenary Talks
Date: Wednesday 12 July
Time: 10am—1pm; 2pm—5pm
Location: C/B101; C/A101

Chemistry Graduation Followed by Drinks Reception
Date: Thursday 13 July
Time: 12pm

Annual Staff / Family Picnic
Date: Friday 14 July
Time: 2pm—7pm
Invite only

Postgraduate Careers Event
Date: Monday 17 July
Time: 1pm—5pm
Location: C/A101

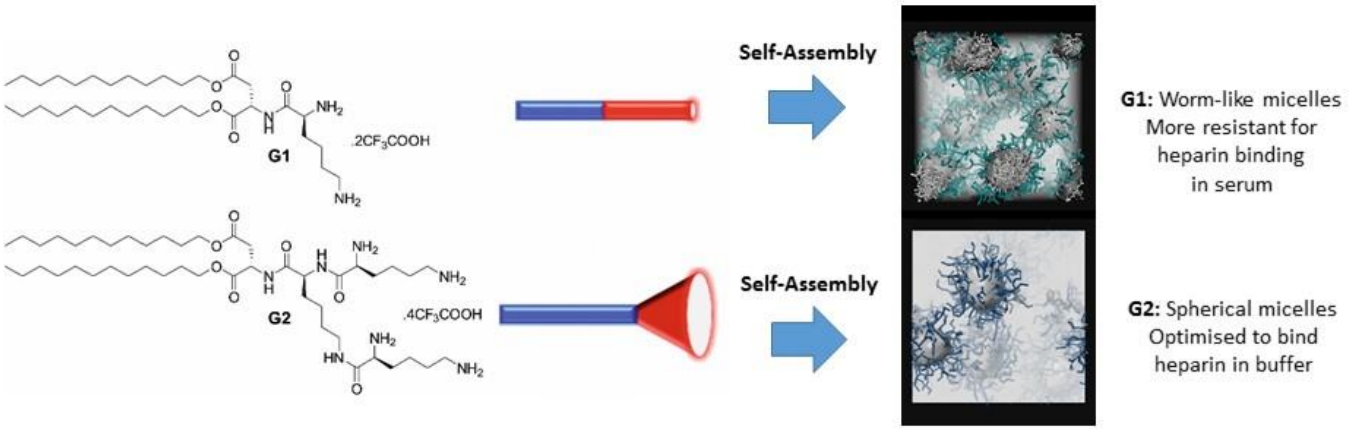
York / Durham Mini-Symposium on Mechanistic Chemistry
Date: Wednesday 19 July
Time: 2pm—5pm
Location: C/B101

Chemistry Research Forum
Date: Friday 21 July
Time: 12pm—2pm
Location: C/A122

Date of Next Issue: 28th July 2017

Landmark Paper for the Smith Group

Professor David Smith recently reached the landmark of publishing his 25th paper in the journal *Chemical Communications*.



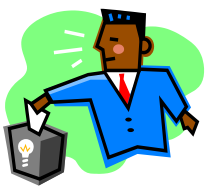
The Smith Group's 25 papers have had a remarkable impact, being cited over 1000 times.

Chemical Communications, with an impact factor of 6.6, is a premier journal for the rapid publication of key results in general chemistry and is published by the Royal Society of Chemistry as part of their not-for-profit publishing business.

In their 25th paper to be published there (*Chem. Commun.* 2017, **53**, 6335-6338), the Smith group explore how self-assembled nanosystems bind heparin, a key biological target. Systems capable of effective heparin binding have potential applications in coagulation control after major surgery. In particular, they report that the shape into which the system self-assembles determines how well it binds to its target. Interestingly, nanospheres bind heparin more effectively in water, but in the more biologically-relevant conditions of human serum, nanocylinders become more effective.

This research was carried out by Spanish postdoctoral researcher, Ana Rodrigo, who was funded by a Marie Curie Fellowship from the European Union. Vital theoretical understanding of the experimental results was achieved through collaboration with Professor Sabrina Pricl at University of Trieste in Italy – a research link that has also benefited from EU support.

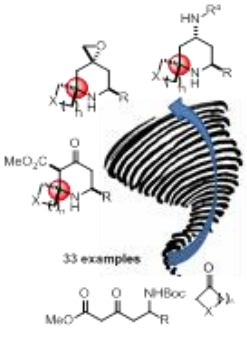
Updated Online Department Suggestion Box



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 new Google form on the intranet homepage or at this link.

Clarke Group News

SPIROTASTIC! York chemists have devised a simple two-step route to molecules important in drug discovery.



The discovery of new pharmaceutical agents relies on the synthesis of small lead-molecules which can be elaborated into potential drug candidates. In order to discover new classes of pharmaceuticals there is a desire by medicinal chemists to explore new types of lead-molecules, which are more three-dimensional than the traditional lead-like structures. Unfortunately, the investigation of these molecules is hindered by the difficulty in synthesising them. The Clarke group, in collaboration with GlaxoSmithKline, has developed a simple two-step process for the synthesis of 2-spiropiperidines. The 2-spiropiperidine scaffold possesses the highly desirable three-dimensional chemical structure, and can easily be converted into a multitude of lead-like molecules desired in drug discovery programmes. This work was carried out by PhD student Sam Griggs, an undergraduate BSc research project student, Nathan Thompson, and an ERASMUS exchange student, Marie Fabre.

The work is published in *Chem. Eur. J.* http://dx.doi.org/10.1002/chem.201702467

In other news, **Dr Paul Clarke has taken up a consultancy with the Pharmaceutical Company Vertex**. Over the coming months Paul will be advising their medicinal chemists on routes to oxygen-containing heterocyclic molecules of interest to the development of new drug molecules.

Joint Research Consortium launched by York and Durham

A new virtual consortium has been jointly launched by York and Durham chemistry departments.

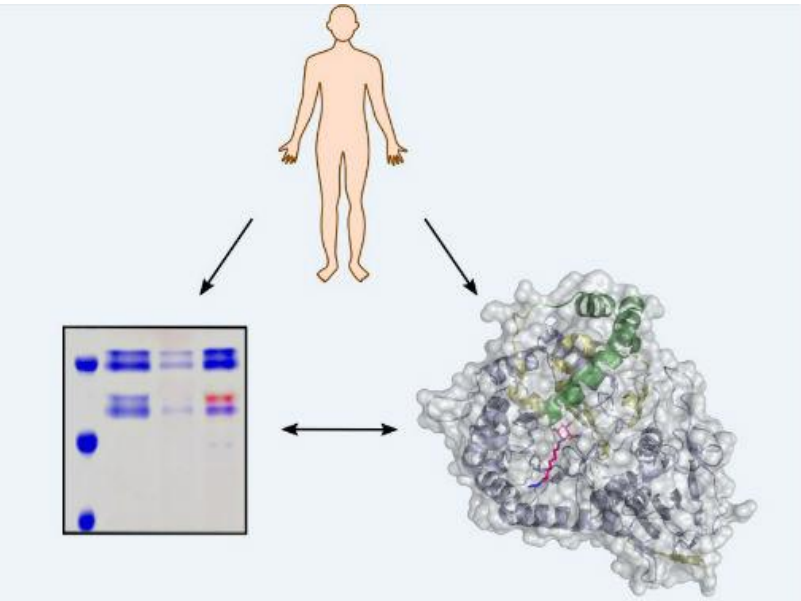
On Thursday 18 May, mechanistic chemists from York and Durham launched a virtual consortium titled "Mechanism-driven understanding in complex molecular systems".

The meeting included a number of exciting talks from academics and industrialists and covered mechanistic-orientated research and capabilities at both institutions. The consortium is aimed at encouraging research collaborations and sharing training resources, specialist expertise and techniques.

The consortium aim to hold joint symposiums in the future.

New Cellular Imaging Paves Way for Cancer Treatment

Researchers in the Department of Chemistry and the University of Leiden have pioneered a technique which uses florescent imaging to track the actions of key enzymes in cancer, genetic disorders and kidney disease.



A human, an enzyme and some gel bands - fluorescent imaging agents visualize enzyme activity in healthy and diseased tissues. This will aid in the design and assessment of more effective drugs against cancer (image credit: Liang Wu)

Scientists hope this new development will aid drug design for new anti-cancer, inflammation and kidney disease treatments.

It will also provide diagnostic tools for disease identification and allow medical professionals to measure the effectiveness of drug treatment regimes in an easy laboratory manner.

Key enzyme

Studying heparanase - a key enzyme in the development and metastasis of human cancers – scientists unveiled new fluorescent imaging agents that detect enzyme activity in healthy and diseased tissues.

The research, published this week in *Nature Chemical Biology*, builds upon previous work revealing heparanase's three-dimensional structure.

Heparanase is a long-studied protein in human tissues involved in breaking down the complex sugars of the "extracellular matrix" – the material surrounding cells that provides structure and stability.

Heparanase dysfunction is linked to the spread of cancers both through the breakdown of this matrix and via the subsequent release of "growth factors" – chemicals that promote tumour development.

Through its remodelling of the matrix, heparanase is also a key player in inflammation and kidney disease. It is therefore a major drug, and diagnostic probe, target.

Early disease identification

Gideon Davies, Professor of Structural Enzymology and Carbohydrate Chemistry at the University of York, said: "Heparanase is a key human enzyme. Its dysregulation is involved in inherited genetic disorders, and it is also a major anti-cancer target and increasingly implicated in kidney disease.

"Our work allows us to probe the activity of heparanase in human samples – allowing early disease identification and a direct measure of the success of drugs in humans.

“This work is a great example of the power of EU collaboration and science funding from the European Research Council.”

Hermen Overkleeft, Professor of Bio-Organic Synthesis at Leiden University, added: “This work reveals the power of activity-based protein profiling: the probe described here at once enables screening for heparanase inhibitors from large compound collections and is a lead compound for drug development in its own right.

“While the road to heparanase-targeting clinical drugs is long and fraught with risks, with this work we believe to have taken a major step in realising the therapeutic potential of this promising clinical target.”

York Backs Technician Commitment

The University of York has pledged its commitment to a sector-wide scheme aimed at addressing some of the key challenges facing technical staff working in research.

The initiative, led by the Science Council and supported by the Gatsby Foundation, has identified five key areas where universities and institutions will work to improve and safeguard vital technical skills.

The commitment will ensure greater visibility, recognition, career development and sustainability for technicians across all disciplines.

The commitment was launched at the Higher Education Technicians Summit held on 31 May in Warwick.

The initiative comes at a key time as the demand for technicians is increasing. More than 1.5 million technicians currently work in the UK, which is expected to rise by around 70,000 each year.

Professor Brian Fulton, Dean of Faculty of Sciences at York, welcomed the initiative. He said: "The University has over 400 technical staff who provide invaluable support to our research and teaching. This welcome initiative by the Science Council will help us improve recognition of their contribution, provide structured training and improve career development."

Abby Mortimer, a technician in the Department of Chemistry, added: “Technicians are a vital part of the University. As a highly skilled and often specialised workforce, there are challenges regarding career development and progression.

“This initiative is an excellent way to tackle that, as well as improving recognition for the work we do.”

Read the full story here.

Bio-Based Solvent Awarded Prestigious International Award

A bio-based solvent developed in the Green Chemistry Centre of Excellence (GCCE) has been awarded a prestigious international award for innovation.

Cyrene is a renewably sourced, safe replacement for several widely-used petroleum-derived solvents, recently identified by the EU as being toxic and which will have severely restricted future use.

The product recently picked up the 'Bio-based Innovation of the Year' award at a ceremony held at the University of Amsterdam.

Professor James Clark with Dr Jeff Eaves, General Manager of Circa

The panel of expert judges described Cyrene as "truly innovative" and a "major breakthrough."

Cyrene was developed by Circa in conjunction with Professor James Clark's team in the GCCE and leading life science and biotechnology company Sigma-Aldrich.

Professor Clark said: "The Cyrene story is barely four years old, yet it has already led to the first pilot plant in Tasmania producing one tonne of the new product per week.

"It has featured in several publications and resulted in several patents; research funding from industry and the EU and now this international prize. It's a great example of how we can move quickly from invention to commercialisation."

"Since these toxic solvents are used in applications ranging from the manufacture of pharmaceuticals to the preparation of advanced materials like graphene, the potential for Cyrene is vast and covers established and new industries."

Tony Duncan, CEO and co-founder of Circa Group, said: "All results to date indicate Cyrene is a safer, healthier, high-performance alternative to traditional solvents and it continues to surprise researchers with its unique properties. We are glad that its exciting potential continues to be recognised."

Meanwhile, the University of York is leading on a EU project focusing on replacing traditional, fossil-based solvents (see Page 7).

Bio-Based Solvent EU Project Launched

Three-year project looking for alternatives to substances categorised as very high concern.

ReSolve, a €4.3 million EU project focused on replacing traditional, fossil-based solvents, was officially launched on 15 June. Led by the University of York, the project consortium is comprised of 11 partners from 5 different countries.

ReSolve stands for 'Renewable solvents with high performance in applications and improved toxicity profiles', and is a three-year project looking for alternatives to substances categorised as very high concern (SVHC) under European REACH regulation. ReSolve answers the BBI-2016-R06 call on 'Bio-based alternatives to improve protection of human health and the environment'.

The project is set to demonstrate production of novel alternatives to replace hazardous conventional solvents toluene and NMP, creating an additional pipeline of bio-based solvents, establish a toxicological safety testing strategy and evaluate possible production processes of the most advanced bio-based solvent candidates, benchmarked against these conventional solvents.

"We are very excited about the start of the ReSolve project", said Professor James Clark, Director of the GCCE. "Bio-based solvents currently have a minor share on the solvents market – there is a tremendous need to improve the marketability of bio-based solvents and with this their market share. ReSolve can support this by demonstrating the use of new bio-based solvents in applications relevant to the market needs, whilst also gathering valuable data on their toxicity and scale-up."

This project has received funding from the Bio-Based Industries Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under grant agreement No. 745450.

O'Brien Group News

Chemistry Grasmere Heterocycles Meeting, 4-8 May

The O'Brien group attended the Grasmere meeting (organised by the RSC Heterocyclic and Synthesis Group) in May. All of the group presented posters covering electrochemistry, 3-D fragments, lithiation chemistry and enzyme activators, all featuring lots of heterocycles. In addition, Peter gave an invited lecture on the recent work in the group on oxygen and sulfur lithiation methodology. Unusually, the weather was spectacularly sunny and dry – ideal conditions for the afternoon walks on the fells. A memorable meeting was had by all!

RSC Heterocyclic and Synthesis Group Chairman (2017-2020)

During the speeches at the conference dinner, it was announced that Peter will be taking over from Chris Willis (Bristol) as the next Chairman of the group.

New Starters

Naomi Farren, PDRA, working for JDL in WACL on the "Sources and Emissions of Air Pollutants in Beijing" project.
Room: C/G116; Extension: 4755; Email: naomi.farren@york.ac.uk

Fergal Byrne, PDRA, working for TJF in GCCE on "Bio-based Industries (BBI) ReSolve" project.
Room: C/F111/113/119; Extension: 4547; Email: fergal.byrne@york.ac.uk

Dr Kadambari Lokesh, PDRA, working for ASM in GCCE on the "STAR ProBio project"
Room: C/F111; Extension: 4547; Email: kadambari.lokesh@york.ac.uk

Kate Ball, YSBL Group Administrator (starts on 10 July)
Room: B/K167; Extension: 8264; Email: kate.ball@york.ac.uk

Demonstrators Drinks Reception and CODY Awards

The CODY (Chemistry Outstanding Demonstrator of the Year) Awards took place once again on 23 June. To celebrate the end of term and, more importantly, to acknowledge the huge contribution that GTAs make to the smooth running of the undergraduate teaching labs, a drinks reception was held for all GTAs, course organisers and teaching labs staff.

All GTAs make a valuable contribution, but there are also those that go above and beyond the requirements of the role, and the CODY Awards seek to acknowledge this. Nominations and comments were sought from undergraduates via the Staff-Student Committee reps, Practical and Maths Course Organisers, and David Pugh for laboratory-based demonstrators. From this consultation, a shortlist was drawn up, which comprised the following students:

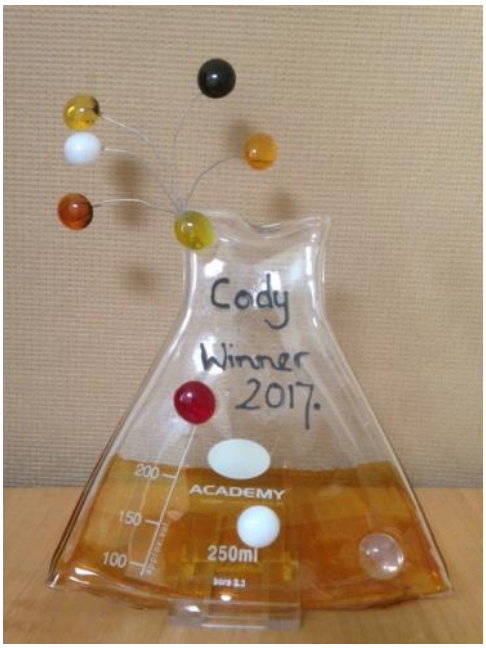
Adam Pinder, Chris Cabry, Rachel Bean, Nina Leeb, Pedro Nunes, Jordan Herod, Katie Lamb, Robin Brabham, Will Duckworth, Tamara Mielke, Imogen Breen, Andy Steer, Eleanor Morris, Adam Hughes, Lizzie Wheeldon, Craig Archbold, Ellis Wilde, Chris Maddocks, Mark Dowsett, Emma Thimbleby, Sam Griggs, Andrea Munoz Garcia, James Shannon, David Turnbull, Sham Arkawazi and Scott Hicks.

The winners were identified by the selection panel which consisted of Richard Douthwaite, Nick Wood, Glenn Hurst, Charlotte Elkington and David Pugh. Congratulations to the winners of the 2017 CODYs:

Katie Lamb, Tamara Mielke, Chris Cabry, Craig Archbold, Rachel Bean and Adam Pinder.

Awards were presented by Richard Douthwaite, Chair of the CODY Panel. Richard thanked all of our GTAs, course organisers and teaching labs staff for their valuable contributions throughout the year. Thanks also to Abby Mortimer who once again designed and made the awards.

Three of the winners with Richard Douthwaite (l-r Katie Lamb, Rachel Bean, Richard Douthwaite, Adam Pinder).



CODY Award made by Abby Mortimer.

Equality & Diversity News

Undergraduate Equality and Diversity Workshop

In week nine of the summer term, Paul Walton and Leonie Jones held the first undergraduate equality and diversity workshop with the 2nd year students.

Paul gave his popular talk on gender discrimination and unconscious bias, which includes data on gender balance in academia and optical illusions to illustrate the way our brains make assumptions. The session was highly interactive, including a quiz with some surprising statistics and a shortlisting exercise where students were asked to rank real (but disguised) CVs against a teaching position to help understand the impact of our own assumptions and unconscious bias when making key decisions.

The feedback from the workshop was generally very positive:

"It was really interesting and surprising. I enjoyed it much more than I expected!"

"I think the group activity was really enlightening, although scared us all a little bit. The talk was really enlightening and the quiz was shocking."

"I think there should be more such initiatives, it's a VERY IMPORTANT ISSUE!"

The session tied in really well with the other transferable skills and employability activities that the 2nd years have after the exams such as group exercise, CV and interview workshops.

This workshop is part of the Department of Chemistry's Athena SWAN activities aiming to increase awareness of equality and diversity issues amongst our undergraduate students. Leonie Jones also runs a session with the year one PGR students as part of the iDTC.

- Leonie Jones and Paul Walton

Chemistry Pride Forum

The second Equality and Diversity Lunchtime Forum was held on Wednesday 7 June in the Quiet Room in A block. As it was York Pride week, we chose LGBT+ as the topic and had a wide-ranging discussion about LGBT+ issues in the Department, in the University, and more broadly. The event was well attended by those who identify as LGBT+ as well as a number of non-LGBT allies.

Tea, coffee and cake helped to lubricate the discussion, with special thanks going to Leonie Jones who decorated a cake with a rainbow of smarties (see photo on Page 11).

Among the topics that were discussed were a recent Stonewall Role Models course that the Equality and Diversity Committee had funded Derek Wann to attend. One of the outcomes of the course

should be that participants strive to make LGBT+ issues more prominent in their place of work. To this end Derek will try to set up an LGBT+ Network in the Department in the autumn – open to anyone who works or studies in the Department who wants to meet informally from time to time. While the details have yet to be worked out, please drop Derek an email (derek.wann@york.ac.uk) if you have any thoughts or would like to be involved.

Also, please look out for details to be announced later in the summer about the third LGBT STEMinar to be held in York in early January. These popular events allow LGBT scientists and their allies to present scientific talks and posters in a supportive environment. They are great networking opportunities, and you can see more information about the last event in Sheffield here: https://lgbtstem.wordpress.com/lgbt-steminar-2017/

Professor David Smith Featured as LGBT+ Role Model

Professor David Smith has been featured as an LGBT+ role model on the new Institute of Physics' (IoP) LGBT+ Diversity Programme's 'role models in science' flyer.

David is a nanochemist and routinely takes part in LGBT+ talks and events, where he shares his experiences as a gay scientist and the importance of equality and diversity in science.

He has a reputation for delivering educational outreach and runs a popular YouTube channel, which features a flagship lecture on 'LGBT Scientists'.

During 2017, David has spoken at a number of LGBT+ lectures and events, including:

- UNIT 2017 in Berlin - This was a major international LGBT science and technology conference with >500 delegates
- University of Oxford
- University of Lancaster
- University of Nottingham
- Procter and Gamble

The Department of Chemistry is dedicated to supporting staff and students who identify as LGBT+ (Lesbian, Gay, Bisexual, Transgender) and to creating an inclusive community where everyone can thrive. The Department has a thriving Equality and Diversity Group and is the first Department to be awarded an Athena SWAN gold award, which it still maintains.

First Faraday Discussion on Bio-Resources Sparks Enthusiastic Debate

“On 19 June, chemists from around the world slogged through London’s sweltering heat, converging on Burlington House for the first ever Faraday Discussion on bio-resources. The historical (and thankfully air-conditioned) venue played host to a three-day conference that was three years in the making, chaired by Professor James Clark. Delegates came from as far as Brazil, China, and the USA, along with locals from York and London. Energy was high and the room was packed at the beginning of the session.

“The conference began with a sobering talk from Professor Bruce Dale of Michigan State University, discussing the relationship between energy use and standard of living. We must plan for increased renewable energy use to bring the developing world up to a high standard of living. Furthermore, he reminded us, in a conference about the future of agricultural resources, there was not a single farmer in the room. The producers of the resources must be brought into the conversation if the bio-economy is to be successful.

“Presenters then delved deep into the chemistry of bio-based materials, with talks ranging from furfural hydrogenation to blend configuration of lignin-containing polymers. Dr Avtar Matharu presented the extraction of pectin from mango peel waste, and Professor Gadi Rothenberg of Amsterdam shared the story of his accidental discovery of a plant-based thermoset plastic that spun off into his successful Plantics company. Spirited discussions were had about the potential of lignin valorisation, with the session chair, Professor Magdalena Titirici, deftly steering the conversation into safer waters. A series of lightning presentations from poster presenters concluded the day.



"The second day of the conference focused on biomass conversion to chemicals, and the topic of greatest debate was microalgae—is it a viable bioresource, or should chemists instead focus on land-based feedstock technologies? Strong voices were heard on both sides of the argument. Dr Andy Hunt and Dr Vitaliy Budarin presented York's research on bio-based solvent development and microwave-assisted processing of lignocellulosic biomass, generating much interest and discussion around the potential of these new methods. The conference dinner at the Royal Society finished with the traditional "Loving Cup" ceremony and presentation of poster prizes to Anna Zhenova of York and Servann Hérou of Queen Mary University of London.


"On the final day, the discussion focused around feedstock selection and analysis. Professor Vânia Zuin of Universidade Federal de São Carlos presented her work on York's mesoporous materials derived from starch (Starbon®), and a rapid method of NIR feedstock analysis was presented by Celignis Analytical. Finally, Professor Alexei Lapkin of Cambridge presented his data-mining approach to automate identification of potential feedstock-to-value routes and processes. Professor Andrzej Stankiewicz of TU Delft closed the conference, emphasising the critical triangle of feedstocks, processes, and products needed for the bio-economy to become a reality. Delegates expressed wishes for another Faraday Discussion soon, but first, three more years of planning are needed!"

- Anna Zhenova, PhD Student in the GCCE

Science out of the Lab: Analysing the Past

On 2-3 June, members of the analytical group took part in Science out of the Lab in York city centre, along with scientists from across the University as part of the Festival of Ideas.

Members of Team Bog Body: Adam, Scott, Emma, Martina, Annie, Kirsty and Kirsty

With the help of an outreach grant from the Royal Society of Chemistry, we designed a series of games that gave participants 'clues' about a human body recovered from a bog. The stall aimed to communicate the lesser known, weird and wonderful ways in which chemistry plays a role in research, and demonstrates some of the techniques that we use in the lab when analysing archaeological material.

Using amino acid racemisation, elemental analysis, microscopy and FTIR, visitors to the stall could find out how old the body was, what they were wearing, what they had eaten and what they were carrying. We were helped by some amazing puzzles designed and created by Tim Ayres in workshops, and our wonderful bog body model which acted as a fantastic centre piece and talking point. The use of the Spectroscopy in a Suitcase kit with the help of Annie, was particularly appealing to older children, allowing them to get a hands on experience with real instrumentation.

Photo left: Our bog body model (and a piece of 6000 year old wood) helped us discuss ideas of preservation, and acted as a real attraction - particularly with young children who seem to be attracted by some of the more gruesome aspects of bog bodies….

(Our model was designed and created by freelance artist Dee Dickinson)

Feedback was overwhelmingly positive, with over half of our visitors telling us they learnt something about chemistry or wanted to know more about science. We were able to communicate ideas about why things are preserved in bogs, how chemists work with archaeologists, and concepts of analytical chemistry.

Photo left: Marc demonstrating the random amino acid racemiser, made by Tim Ayres in workshops. The extent of aspartic racemisation in the body's teeth was used to determine its age at death.

York Sport Junior Multi-Sport Summer Camps

Looking for fun and alternative childcare this Summer?

Then look no further than York Sport Holiday Camps.

The camps combine sports activities including football, badminton, rounders, beach ball and tennis, with party-style games, crafts and play.

Children receive expert coaching and supervision throughout the day, leaving parents free to go to work or enjoy some time to themselves.

When: 31 July – 11 August 2017

Location: York Sport Centre

Age: 8 – 16 years

Time: 08.30am – 17.30pm

Cost: £30 per day, or £145 for the week.

Booking: To book your place, please follow this link.
Or for further information, please follow this link.

Should you wish to register your interest for our 4+ Summer Camps please contact the team via email; Sports-Development@york.ac.uk.

Green Impact Awards

Nick Abbott receiving the Award on behalf of the Chemistry.At.York Green Impact team. Lisa Mayer is the other team member.

"This is our sixth year, having started in 2011/12 (the year Green Impact started at York) and we have achieved the Gold Award for the second year running! We had a student project assistant as well as another student helping us – many thanks for your help! Please contact Nick on nick.abbott@york.ac.uk if you wish to join us next year (we cover general areas of the Department)."

- Chemistry.At.York Green Impact team

Left: WACL Waste Warriors' Tomás Sherwen collecting their Green Impact Gold Award! Not pictured: Jenny Hudson-Bell, Ruth Purvis, Katie Read, Jim Hopkins, Niamh Hartley, Daniel Ellis, and Martyn Ward.

Right: WWW's consecutive Gold, Silver and Bronze awards.

“It was another busy year for WACL and we are very pleased to have managed to get a Gold Award to join our Bronze and Silver ones. We most enjoyed sitting down together and discussing sustainability - about being efficient as well as being green. Next year we have plans for bug hotel because we’re next to the woods and a sustainable bat box idea is being floated too. We’ve also talked about having charging points for phones running from solar panels.”

- WACL Waste Warriors

“Green Chemistry are very pleased to have been awarded the Bronze Labs award this year in addition to the Bronze award for office areas, as this is a step towards combating the most significant environmental impacts in our Department. Our team is focusing on reducing water and energy usage by replacing high impact equipment. We have found that retaining an open dialogue with Estates and Procurement teams is key to facilitating these changes.”

- Green Chemistry Green Impact team

“This is the photo of Charlotte Elkington and me receiving the Silver Award for chemistry teaching labs. This is the first year I have been involved in Green Impact and I now appreciate how vast a concern it is and how students are genuinely engaged in this topic. We were only a few points short of Gold and so that's what we're aiming for next year! We are already looking at chillers for the rotavaps which will stop water being constantly run to drain.”

- Liza Binnington

CHyM Run for Jane Tomlinson Appeal

A few members of CHyM are taking on several 10k races across Yorkshire this summer. There are four races in total; Hull, Leeds, York and Sheffield covering the four different areas of Yorkshire. The core team consists of Pete Richardson and Phil Norcott (both Postdoctoral Researchers), Richard John (Experimental Officer in NMR) and Jenny Lewis (First year PhD student). Additional members of the Department will join the team for other races. These are Rhianna Nelson-Forde (Masters student) and Olga Semenova (Second year PhD student) for the Leeds 10k race and Barby Procacci (Postdoctoral Researcher) for York and Sheffield races.

The team are all running for the Jane Tomlinson Appeal, which raises money for children's and cancer charities. The charity is set up in memory of Jane Tomlinson who died in 2007 from cancer, aged just 43. Jane managed to raise £1.8 million for charities with a series of endurance challenges, even undertaking several whilst suffering from terminal cancer. Further information on her story and charity can be found at the Appeal website.

The first race in Hull was held on 18 June recently. As some of you will remember, this was right in the middle of the heatwave. Fortunately, the race was held at 9.30am and so the temperature had not quite become unbearable, but at 26 degrees was quite challenging. It did require setting off from York at 7am in the morning though, to ensure we all arrived in time with the major roadworks on the A63.

Waiting for the run to start.

Enjoying the atmosphere post race.

The run itself was held in the city centre, starting from Alfred Gelder Street, skirting out past Victoria Park, back past The Deep, circling the marina before finally finishing outside the Guildhall.

Luckily there was plenty of water available, with several residents taking it upon themselves to provide cooling showers with their hosepipes. Over 4000 runners took part, with a large range in times. The fastest runner on the day managed the run in just over 33 minutes, which is incredible in the sweltering heat.

Everyone in the team finished, all within a couple of minutes of each other:

Pete	0:58:57
Phil	0:59:18
Richard	0:59:19
Jenny	1:00:50

We all enjoyed the events held after the race, with the centre of Hull being alive with runners and supporters. After enjoying a complimentary massage (Peter and Richard unfortunately had sports massages so not quite as enjoyable), we got our times engraved on our medals and headed back to York to recover / enjoy the rest of the day.

The next three races are:

Leeds: 9 July

York: 6 August

Sheffield: 24 September

Please consider helping us raise money for the Jane Tomlinson Appeal, which can be done easily at our JustGiving page: https://www.justgiving.com/fundraising/peter-richardson19. We can also give further updates as we complete the next races.

The Great CHyM Bake Off

On 20 June, we held a Great CHyM bake off at the Centre of Hyperpolarisation in MR. The participating cakes were baked by Denise, Lyndsay, Fadi, Marianna, Kate and Olga. There were walnut—raspberry brownies, chocolate—marshmallow cake, chocolate cake with coffee fondant, walnut—mascarpone salted caramel cake, banana loaf and fabulous chocolate—fudge cake with strawberries.

We had a great jury (Liz, Pete, Phil) who not knowing which cakes was baked by whom, chose the 3 best cakes. They cut the cakes, tasted them and here are just some of the comments:

“That’s a great bake”; “That’s a well-constructed cake”; “Crunchy on the outside and soft in the middle”; “That is sooooo fluffy”…

The jury said: “It was a very high standard with no soggy bottoms in sight!”

“It was not easy to choose the best one but the chocolate—marshmallow cake just had the edge for it’s fluffiness and yummy taste.”

The star baker in CHyM is Lyndsay with the chocolate-marshmallow cake.

The second great baker is Olga. She made a fabulous chocolate-fudge cake with cream and strawberries. The third great baker was Marianna with her scrumptious walnut-salted caramel cake with mascarpone cream.

All of us had a great and very sweet time! All the cakes have gone! ☺

Successful JEOL Postdoc Poster Competition

On Thursday 15 June, the Department held the 2nd JEOL Postdoc Poster Competition, with three prizes generously sponsored by JEOL and the Department. 19 posters were entered with representation from across the Department. Mark Dunham, Business Development Manager at JEOL very kindly came to represent our sponsor and help judge the competition along with members of staff. Professor Lucy Carpenter, Deputy Head of Department – Research, opened the proceedings, explaining that the competition was a celebration of the valuable contribution of our research staff to both teaching and research in the Department.

The quality of the posters and presentations was extremely high and the judges had a tough time coming to a final decision. There were three cash prizes awarded to the three best posters, and two further posters were highly commended as runners up. The three winners will be invited to talk at a special symposium in the Department in the autumn.

The winners (in no particular order) were:

- **Barby Procacci** – "Laser Pump-NMR Probe of Hyperpolarised Metal Hydrides: Kinetics, Mechanisms, & Spin Dynamics"
- **Dan Raines** – "Crystal structure of a ferric bis(catecholamide) in complex with the siderophore binding protein CeuE"
- **James Donald** – "Photoredox-catalysed procedure for carbamoyl radical generation: 3,4-dihydroquinolin-2-one and quinolin-2-one synthesis"

The runners up were:

- **Darshita Budhadev** – "Smuggling small molecules probes into bacteria cell walls: a strategy for the selective fluorescent labelling of Vancomycin resistant strains"
- **Ian Ingram** – "Fully biomass derived, well-controlled homo- and co-polymers by ring-opening metathesis polymerisation of monomers obtained from furfuryl alcohol and itaconic anhydride"

The event was really well attended by staff and students and feedback shows that this remains a popular event that we will aim to run on an annual basis. It was a fantastic opportunity to celebrate the huge contribution made by research staff to the continued success of the Department.

The event concluded with a few words from Professor Duncan Bruce, Head of Department, who offered thanks to everyone who presented at the JEOL Postdoc Poster Competition. Thanks were also extended to our sponsor JEOL, those who helped to organise and judge the event, and to students and staff from across the Department who turned out to look at the posters.

- Derek Wann and Leonie Jones

(l to r) Ian Ingram, James Donald, Barby Procacci, Dan Raines, Darshita Budhadev

All entrants at the JEOL Postdoc Poster Competition.

Using Google Calendar in the Department of Chemistry

The Google Working Group has outlined the following guidelines and expectations of staff for using Google Calendar in the Department.

It is strongly advised that all staff use their Google calendar and keep it up-to-date as it allows meetings to be organised more efficiently.

Viewing your calendar

As well as personal calendars, academic and teaching staff also have a separate teaching timetable. For more information on setting up and viewing Google Calendars, see the "How Do I" page on the Chemistry intranet.

Sharing your calendar

All staff should share their calendars at a free/busy level with admin staff via the Google group (chemadmin-group@york.ac.uk): Go to the drop down menu under 'My calendars' and type the email address into the 'person' box.

Helpful Hint

Consider sharing your calendar with all event detail with appropriate colleagues. It is possible to have private bookings, which will simply appear as 'busy': Click on the event and change the visibility setting to private.

Accepting invitations

Please accept/decline meeting invitations promptly so the meeting organiser does not have to email attendees asking for a response.

Helpful Hint

When you RSVP, if you click 'more options' (circled in blue below) you have the option to send a message to your meeting organiser. Everyone attending the meeting will also see your message. This function might save you the need to send a separate email to your meeting organiser.

Adding all-day appointments to your calendar

Not everyone can see a booking in your calendar if you have ticked 'all day' when you booked the event. Only those people you have given full access to view details in your diary will see appointments that are organised along the top of your calendar. Therefore, we advise you book an appointment with a start and finish time rather than tick 'all day'. If you are busy all day for several consecutive days then it is straightforward to book a meeting for the whole day with a start and finish time e.g. 9:00-17:00, and then tick the repeat box and set an end date. Your diary will then show everyone that you are busy all day.

Part-time staff

Part-time staff are encouraged to share their standard 'in work' hours in their calendar: Go the gear icon, select settings and set your hours in the general tab - you can make this the default in your calendar settings. Alternatively, block out the whole day in your calendar (e.g. 8.00-18.00).

Chemistry Cricket, a Perceptive from David Lindsey

“During my 30 years working in the Teaching Labs, I used to think that out of the three core Science Departments at York, it was Biology that had the best and most frequent social activities but at least we did better than Physics and Electronics. And I doubt that things have changed very much in the last decade. One of the foundations of extra curricular activities in Chemistry has always been the cricket team. This goes right back into the mists of time, the 1960s when future Heads of Department would turn out to play against Biology and Physics. In 1983 this was formalised by the creation of the Staff / Post Grad League which pitted 7 or 8 teams against one another in 20 over evening games playing for the self styled 'Tin Pot Trophy'. And this has continued for 34 years.

“Departmental teams can come and go depending on the enthusiasm of the organiser but Chemistry have always been there. And their name decorates the trophy for 17 of those years. But despite the undoubted enthusiasm and ability of captains Dr Lynam, Dr Lee, and T. Downes and being League winners as recently as 2014, in the last 2 years cricketers seem to have become thin on the ground despite our increasing numbers. I always used to tell graduates that they were so fortunate to be studying in Yorkshire, the spiritual home of beer and cricket (forget all that nonsense about Hampshire) and even luckier to be eligible to participate in enjoying them both. Certainly cricket in Yorkshire is generally a serious business but not in the Staff League. You can wear anything except stilettos (bad for the pitch), you won't need a helmet because the ball doesn't bounce that high. There are just 6 fixtures each season, starting at 5.30pm and finished for 8pm. We continue through July until mid-August so a match every couple of weeks. We're really the lowest tier of organised sport. There is a smattering of weekend players but a real mix of age, gender and ability. This season (and last), winning the league is far from everyone's thoughts.

“Having fun on a sunny evening is the key and having a full team makes it more fun. If you just played a bit at school, or a complete novice wanting to learn, you will be fine. If you have played for a team before we'll even buy you a pint afterwards. Hasn't the current Champions Trophy on TV everyday whetted your appetite? And you don't really have to be a chemist. The unwritten rule is that if you are unlucky enough to be in a Department which doesn't currently have a team (Physics, Music, Maths, Law, History, even Computer Science this year, then we will be happy to have you).

“Of course you are here to push back the frontiers of science. But for everyone who remembers the ground-breaking research that Guy Dodson is rightly famous for, there will be someone else (me) who remembers him for the bamboozling leg spinners he bowled and the impossible single off the final ball of a cup match at Acomb, which brought an unlikely victory. Professor Duckett. NMR? Board of Studies? No, no, no Professor (then Simon) Duckett is the guy who hit a lofted cover drive for 6 (or was it 4?) again off the last ball versus Computer Science leading to a decade of argument and controversy plus getting a tree named after him. Posterity can claim you in some unusual ways and everyone with a career average (i.e. 3 matches) for Chemistry is in the archives. 'They shall grow not old, as we that are left grow old’ etc. Each season produces more anecdotes to discuss and laugh over later.

“If you are interested just drop an e-mail to chemcricket-group@york.ac.uk, or catch one of the people mentioned above. The rest can be left to us…”.

- David Lindsey