



EPSRC Centre for Doctoral Training in Sustainable Chemistry

University of Nottingham

NewsletterIssue 2
July 2016

Our Centre for Doctoral Training in Sustainable Chemistry has now recruited its third cohort of students. This Cohort will be based in the new Carbon Neutral Laboratory (see below) for their first year, along with some members of Cohorts 1 and 2 who will also relocate to the CNL during the summer.

Although based in Chemistry, the CDT involves a number of partners: Chemistry, Engineering and Biosciences are actively involved in research projects and the Business School and Sociology & Social Policy are important partners in the training programme. All partners are represented in the CDT management structure, so please feel free to raise any issues with your representative.

CDT Partner School Representatives:**Chemistry:**

Chris Hayes, Steve Howdle

Biosciences:

Tim Foster, Ian Fisk

Engineering:

Sam Kingman, Anca Pordea

Business School:

Simon Mosey

Sociology & Social Policy:

Sujatha Raman

**The Carbon Neutral
Laboratory (CNL)**

The Carbon Neutral Laboratory (CNL) was handed over to the University on 6 June 2016, and is now starting to be occupied. The first group of CDT students – those in Peter Licence's research group – have already moved, and they will be followed shortly by others. The new cohort of CDT students will be based in the CDT training room within the CNL from September onwards.



Dragons' Den Event

The Centre held its second Dragons' Den event on 14-15 April 2016 at Breadsall Priory. Cohort 2 students successfully presented their project proposals and are currently working on their lab pilot projects. The event was supported by many academic colleagues from the Schools of Chemistry and Biosciences, and Department of Chemical Engineering, as well as a number of industry partners.

Cohort 2 Research Projects

Student	Project title	Supervisor(s)
Teresa Ambrosio	Biomimetic C-H activation (oxidation and halogenation)	Christoph Loenarz
Astrid Delorme	3-D printable polymers functionalised with ionic liquids	Victor Sans Sangorrin, Peter Licence and Darren Walsh
Vlad Dinu	Release of food volatiles; monitoring by mass spec; interaction of volatiles with proteins	Ian Fisk, Stephen Harding and Gary Adams Nicole Yang
Riccardo Di Sanza	C-H activation reactions and mechanistic studies	Hon lam and Liam Ball
Johnathan Hunter	Photochemistry in flow	Martyn Poliakoff and Mike George
Alexander Kibler	Polyoxometallates for CO ₂ reduction	Graham Newton and Jairton Dupont
Meike Leu	Magnetic nanoparticles based on Fe and use in catalysis	Jairton Dupont and Peter Licence
Daniel O'Connor	Sustainable Synthesis of Allenes by Photoredox Catalysis	Robert Stockman
Chris Peel	Biotransformations; directed evolution of enzymes for biocatalysis	Elaine O'Reilly
Sara Perez Nieto	Biomedical polymers; renewable source of trimethylene carbonate	Steve Howdle
Jose Pinto	Farnesane as source of biofuels; selective hydrogenation and industrial scale up	Jairton Dupont and Victor Sans Sangorrin
Ben Shepherd	Process engineering; scale up of microwave processing of biomass	John Robinson and Liam Ball
Francesca Spagna	Enantioselective C-H activation (oxidation)	Chris Moody
Jennifer Wakefield	Functionalised polymers as wood preservatives	Stephen Harding, Ian Fisk, Gary Adams and John Moses

Cohort 3 Recruitment

CDT Cohort 3 (2016-17) recruitment

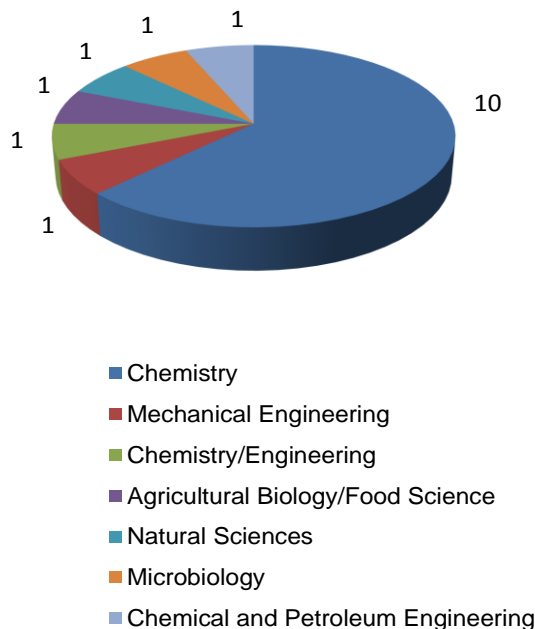
The recruitment for the academic year 2016-17 has ended and the Centre has been successful in recruiting a diverse Cohort of 16 students. During the recruitment process the students have expressed initial interest in a number of areas and these include the following:

- Biocatalysis
- Renewable feedstocks/the bio-refinery approach
- Synthetic methodology
- Ionic liquids
- Food science
- Nanomaterials
- Computational chemistry
- Catalysis
- Sustainable organic synthesis
- Medicinal chemistry
- Polyoxometallates
- Life cycle analysis

EPSRC CDT in Sustainable Chemistry is pleased to introduce its new website:

www.suschem-nottingham-cdt.ac.uk/

Cohort 3 Students' Backgrounds



Industry involvement

The Centre welcomes different forms of industry involvement, particularly direct support of students' research projects. A number of companies have expressed interest in supporting Cohort 3 research projects and they include the following:

- Bruker
- GSK
- Sygnature Discovery
- UCB Celltech
- Croda
- AstraZeneca
- Akeso Biomedical

Events

Green and Sustainable Chemistry Workshop

9-10 February 2016, Breadsall Priory Hotel, Breadsall

This EPSRC sponsored and University of Nottingham facilitated workshop brought together a group of 35 CDT students from CDT in Sustainable Chemistry (Nottingham), Centre in Sustainable Technologies (Bath), CDT in Catalysis (Cardiff) and CDT in Chemical Synthesis (Bristol). The event featured talks from a number of University of Nottingham and international speakers including: Prof Paul Anastas (Yale University), Prof Chris Moody (University of Nottingham), Prof CJ Li (McGill University), Dr Andy Marr (Queen's University Belfast), Prof Jairton Dupont (University of Nottingham) and Prof Walter Leitner (RWTH Aachen University).

An Afternoon with Publishers 19 April 2016, School of Chemistry

The event featured talks by Prof Peter Licence (Associate Editor of ASC Sustainable Chemistry and Engineering); Catherine Brown (Editorial Production Manager of Green Chemistry, RSC) and Dave Smith (Senior Associate editor of Chemistry A European Journal).

The main focus of the event was to provide information and facilitate discussion on topics such as preparation of an article and components of publication submission, peer review process and ethical considerations.

The event attracted over 80 postgraduate students and research and academic staff from the Schools of Chemistry and Bioscience and Faculty of Engineering, and presented a good networking opportunity.



EPSRC CDT in Sustainable Chemistry Poster Presentations

Thomas Clarke - European Symposium on Biological and Organic Chemistry, Newtown, Wales

Steven Maxwell-Hogg – ASIL 2016, 23-26 May 2016, Newcastle, Australia

Connor Yap - 3rd International Symposium on C-H Activation, 28 May – 2 June 2016, Montreal, Canada

Laura Finney, Postgraduate Research Showcase, 15 June, University of Nottingham

Outreach

Sustainable Chemistry Masterclass 1 & 2 3 & 9 March 2016

As a part of the University of Nottingham widening participation initiative, Cohort 1 CDT students took part in a Sustainable Chemistry Masterclass aimed at Chemistry A level students. Led by June McCombie, the CDT students designed the content and delivered both Masterclasses which took place on 3rd and 9th March.

The Big Bang Fair 19 March 2016, NEC, Birmingham

Having recently become a STEM Ambassador, CDT student Laura Finney took the opportunity to participate in what is one of the largest science fairs in the UK, on behalf of the RSC. Laura's stand ran innovative activities such as "mission starlight" demo and Spectroscopy in a Suitcase. During the event Laura's stand interacted with 100s of visitors of different ages and backgrounds.

Science in the Park 19 March 2016, Wollaton Hall and Deer Park, Nottingham

The event, organized by the Nottinghamshire branch of British Science Association represents a celebration of 'all things science and engineering'. Cohort 2 CDT held a demonstration stand and interacted with a mixed audience of approximately 200 visitors.



Congratulations to CDT students Tatiana Dias and Jonathan Hunter who have also become official STEM Ambassadors.

School Science Fair 24 March 2016

A number of CDT students took part in the School Science Fair that took place on 24 March 2016 and entailed demonstration of short experiments to primary school children. The event attracted 250 children, teachers and parents.



Laura Finney at the Big Bang Fair

Family Discovery Day 7-8 May 2016

Cohort 2 CDT students Astrid Delorme and Alexander Kibler performed chemistry demonstrations at this family event, which took place in the Humanities Building, University Park.

I am a Scientist Get Me Out of Here 13-24 June 2016

Congratulations to CDT students Laura Finney and Jonathan Hunter who have been voted the favourite scientists in the 'I am a Scientist get me out of here' outreach initiative. This online event facilitates the opportunity for school students to meet and interact with scientists. The students challenge the scientists over fast-paced online chats, ask them any questions they want and vote for their favorite scientists.

Further details about this event can be found at: <http://imascientist.org.uk/>

Nottingham Festival of Science and Curiosity, 13 - 29 March 2016



Nottingham's first ever Festival of Science and Curiosity took place in the period 13-29 March. The festival was organised by the Stemworks partnership, led by the University of Nottingham and including Nottingham Trent University, Central College, Nottingham City Council, Game City, Futures, STEMNET, Industrial Cadets and Ignite. CDT Cohort 2 students held an activity stand at two Nottingham Locations, The National Videogame Arcade and National Library where they communicated their enthusiasm for chemistry to over 200 people.



Future events

Industrial Showcase – 28 September 2016
(Jubilee Campus, University of Nottingham)

Cohort 3 Induction – 29-30 September 2016
(Orchard Hotel, University Park, Nottingham)

Dragons Den – 6-7 April 2017
(Breadsall Priory, Derby)

I hope that you have enjoyed reading our second newsletter.

Chris Moody

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