



EPSRC Centre for Doctoral Training in Sustainable Chemistry

University of Nottingham

Newsletter

Issue 1
February 2016

Our EPSRC Centre for Doctoral Training in Sustainable Chemistry is now four months into its second year, and it is an appropriate time to update you on our activities. The day-to-day management of the CDT rests with Chris Moody (CDT Director), Pete Licence (CDT Co-director) and Peri Williams (CDT Manager). Although based in the School of Chemistry, the CDT involves a number of partners in the University: 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 on the CDT Management Board (chaired by Martyn Poliakoff), 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:

Brigitte Nerlich

Our industrial partners

A number of industrial partners have already made significant contributions to the CDT training programme by attending our induction events or participating in our Wednesday afternoon challenges. We are extremely grateful to the following companies for devoting a considerable amount of their valuable time to our CDT.

Astra Zeneca

Buhler

Croda

GlaxoSmithKline

PepsiCo

Sygnature Discovery

Synthomer

UCB Celltech

Unilever

Our students

Cohort 1 (2014 entry)

The first cohort of postgraduates entered the CDT in October 2014. This group of 12 students was recruited from 34 applicants (22 home, 7 EU and 5 international), and largely has a chemistry background. Having completed their training year, the students are

now conducting a range of research projects across several research groups as outlined below. Three of the projects have direct involvement from industrial partners.



From left to right (back) Edward Anderson, Tim Douglas, Connor Yap, Steven Maxwell-Hogg, Thomas Clarke, Paul Henry; (front) Grace Lowe, Rossella Mascia, Mariana Gameiro, Laura Finney, Megan Thomsett and Tatiana Dias

Cohort 1 Research Projects

Student	Project title	Supervisor(s)
Connor Yap	Cobalt migrations for organic synthesis	Lam
Tom Clarke	The conversion of food waste derived sorbitol into high value chemicals	O'Reilly
Rossella Mascia	Supported ionic liquids in transition metal catalysis	Licence Sans Sangorin (Eng)
Ed Anderson	A more sustainable formal synthesis of a naphthyridine derivative as avb6 integrin antagonists	Hayes
Grace Lowe	Electrodes made from earth-abundant materials for electrochemical Birch reductions	Walsh Denton
Paul Henry	Optimisation of biorefining using process analytical technology	George Winzer (Life Sciences)
Laura Finney	New cross dehydrogenative coupling reactions with catalytic sunlight-irradiated quinones	Moody
Steven Maxwell-Hogg	The development of keratin dissolution using ionic liquids	Licence, Croft (Eng)

Tim Douglas	Sustainable synthesis of alkaloid inspired molecules	Dowden Pordea (Eng)
Mariana Gameiro	Novel and sustainable methods to develop a greener surfactant	Howdle Irvine (Eng)
Megan Thomsett	Functionalisation of terpenes for the synthesis of renewable polymers	Stockman Howdle
Tatiana Dias	Sustainable heterocyclic chemistry. Synthesis and protein binding of QR inhibitors	Moody Oldham

Cohort 2 (2015 entry)

The second cohort of postgraduates entered the CDT in October 2015. This group of 14 students was recruited from 72 applicants (35 home, 19 EU, 18 international), and in contrast to Cohort 1 have a more diverse background. Cohort 2 students have very recently completed their literature survey, and are starting to think about their research proposals. Although, the students' research projects are not finally confirmed until after the Dragons' Den event in April when they make a formal presentation

of their research proposal, I do have some preliminary indications of the students' likely research areas. As a result, I have now written to the academic staff who are likely to be involved to give them an early indication of the next steps. Following the approval of their proposal at the Dragons' Den, the students embark upon their 3-4 month pilot project in the appropriate research lab(s), before transfer to the full PhD programme in September.



From left to right: (back) Benjamin Shepherd, Vlad Dinu, Alexander Kibler, Jose Pinto, Riccardo DiSanza, Daniel O'Connor; (front) Sara Perez, Maike Leu, Teresa Ambrosio, Francesca Spagna. Christopher Peel, Jonathan Hunter, Jennifer Wakefield and Astrid Delorme

Cohort 3 (2016 entry)

Recruitment for Cohort 3 is well underway, and we have had two deadlines so far. If you are aware of suitably qualified candidates, please encourage them to apply before the final closing date. For international applicants, we would have to rely on them obtaining their international fees from their own scholarship. Details on how to apply are at.

<http://www.nottingham.ac.uk/suschem/study-with-us/prospective-students/how-to-apply.aspx>

Round 1: 11 December 2015 deadline: 39 applications (23 home, 5 EU, 11 international), eight offers have been made and seven of those accepted to date.

Round 2: 30 January 2016 deadline: 34 applications (17 home, 8 EU, 9 international). Interviews will be held in February 2016.

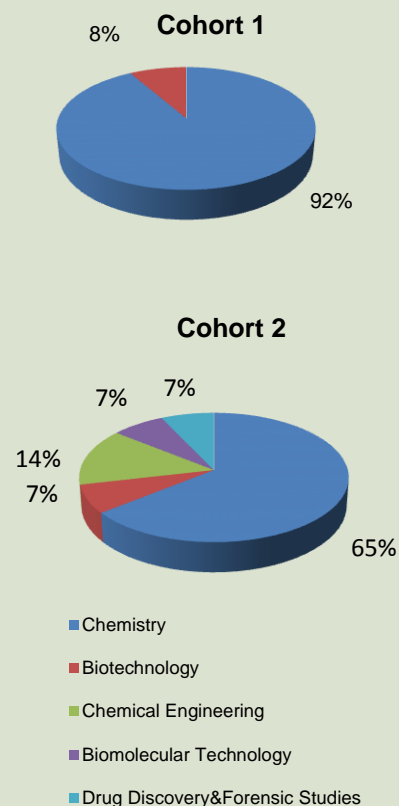
Round 3: The final deadline for CDT applications is **4 March 2016**.

Congratulations to:

Grace Lowe, a second year CDT student for winning the Roger Mortimer Poster Prize at Electrochem15 conference at Durham University in September 2015

Laura Finney, a second year CDT students for becoming an official University of Nottingham STEM Ambassador

CDT Students Discipline Backgrounds



CDT Equipment Fund

Subsequent to our successful CDT bids, the University was invited to apply for additional equipment funding. As a result, our CDT was awarded funds for the following equipment pieces of equipment. Although bought with CDT funds, there is no reason why others should not benefit from this equipment.

- Advion bench top mass spectrometer
- Mettler ReactIR system
- Vapourtec Flow Reactor
- Biotage Endeavour Parallel Reactor (for multiple gas phase reactions such as hydrogenations, carbonylations)
- Equipment for preparative electrochemistry

Visits to the Centre

Policy Connect Visit – 27 November 2015

CDT students Laura Finney and Paul Henry organized and facilitated a visit by representatives from Policy Connect, Laura Owen, Head of Sustainability and Owain Mortimer, Carbon Connect and All Party Parliamentary Climate Change group. Having met a number of CDT students and academics, Laura and Owain gave a talk in the School of Chemistry.

EPSRC Visit – 29 January 2016

The Centre has received its first visit from our EPSRC Portfolio Manager, Eleanor Jaskowska. Eleanor met with academics from School of Chemistry and Department of Chemical and Environmental Engineering, and visited a number of laboratories where she met second year CDT students and learnt about their research.

Events

Towards a Sustainable Future Symposium 21 October 2015

The Centre hosted its first annual Symposium that brought together a number of international speakers and an audience of over 150 academics, researchers and students interested in sustainable chemical technologies. The event's poster session presented an excellent networking opportunity and featured over 20 poster presentations from second year CDT students and postgraduates from across the University.



Speakers: **Dr Laura Torrente-Murciano**, Department of Chemical Engineering and Biotechnology, University of Cambridge; **Prof Mark Mascal**, Department of Chemistry, University of California Davis; **Dr Liam Ball**, School of Chemistry, University of Nottingham; and **Prof Peter Wasserscheid**, Institute of Chemical Reaction Engineering, Friedrich Alexander University Erlangen-Nuremberg



Future events

Dragons' Den – 14-15 April 2015

Breadsall Priory, Derby

Publishers Event – 20 April 2016 (Location TBC)

Industrial Showcase 28 September 2016

CNL, Jubilee Campus

Cohort 2 Induction, 29-30 September 2016,

Orchard Hotel, University Park



I hope that you have enjoyed writing our first newsletter.

Chris Moody

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