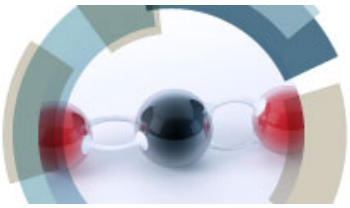
Carbon Dioxide Utilisation

Faraday Discussion



7-9 September 2015
Sheffield, UK

Monday 7 September

11:00	Registration, Tea and Coffee	
12:00	Lunch	
12.45	**Welcome and Introductions** Peter Styring, *Chair of Scientific Committee*	
12.55	**Discussion Format Presentation** Mary Macleod and Amy Hazlehurst, *Faraday Discussions Publishing Editors*	
13.00	**Introductory Lecture** Martyn Poliakoff *University of Nottingham*	
	Atom efficiency in small molecule and macromolecule synthesis Session Chair: Peter Styring	
14:00	**New catalysts for carboxylation of propylene glycol to propylene carbonate via high-throughput screening** Richard Heyn, José A. Castro-Osma, James W. Comerford, Michael North and Elisabeth Tangstad *SINTEF Materials and Chemistry*	Paper 6241
14:05	**A MALDI-TOF MS analysis study of the binding of 4-(*N,N*-dimethylamino) pyridine to amine-bis(phenolate) chromium(III) chloride complexes: mechanistic insight into differences in catalytic activity for CO_2/epoxide copolymerization** Christopher Kozak, April M. Woods, Christina S. Bottaro, Katalin Devaine-Pressing and Kaijie Ni *Memorial University of Newfoundland*	Paper 6643
14:10	**Kinetic and economic analysis of reactive capture of dilute carbon dioxide with Grignard reagents** George Dowson, I. Dimitriou, R. E. Owen, D. G. Reed, R. W. K. Allen and P. Styring *University of Sheffield*	Paper 6604
14:15	Discussion	
15.30	Afternoon tea	
16.00	**Carbon dioxide capture and utilization: using dinuclear catalysts to prepare polycarbonates** Charlotte Williams, N. Yi, J. Unruangsri and J. Shaw *Imperial College London*	Paper 6244
16:05	**Thioether-triphenolate bimetallic iron(III) complexes as robust and highly efficient catalysts for cycloaddition of carbon dioxide to epoxides** Carmine Capacchione, Antonio Buonerba, Francesco Della Monica, Assunta De Nisi, Ermanno Luciano, Stefano Milione, Alfonso Grassi and Bernhard Rieger *Università di Salerno*	Paper 6571

16:10	Discussion	
17.00	Lightning Poster Presentation (by invitation of the Scientific Committee)	
17:15	Poster Session and Wine Reception *Sponsored by Cogent*	
18:45	Dinner	

Tuesday 8 September

	CO_2 reduction reactions Session Chair: Mike North	
09:30	**Electrocatalytic conversion of CO_2 to produce solar fuels in electrolyte or electrolyte-less configurations of PEC cells** Gabriele Centi, C. Ampelli, C. Genovese, B. C. Marepally, G. Papanikolaou and S. Perathoner *University of Messina*	Paper 6239
09:35	**Improving the efficiency of electrochemical CO_2 reduction using immobilized manganese complexes** Alexander Cowan, James J. Walsh, Charlotte L. Smith, Gaia Neri, George F. S. Whitehead and Craig M. Robertson *University of Liverpool*	Paper 6578
09:40	Discussion	
10:30	Morning Tea	
11:15	**Catalytic dehydrogenation of propane by carbon dioxide: a medium-temperature thermochemical process for carbon dioxide utilisation** Peter Edwards, X. Du, B. Yao, S. Gonzalez-Cortes, V. L. Kuznetsov, Hamid AlMegren and T. Xiao *University of Oxford*	Paper 6240
11:20	**Hydrothermal conversion of carbon dioxide into formic acid with the aid of zerovalent iron: the potential of a two-step approach** Koen Michiels, B. Peeraer, W. van Dun, J. Spoorena and V. Meynen *Flemish Institute for Technological Research, VITO NV*	Paper 6665
11:25	**Novel process and catalytic materials for converting of CO_2 and H_2 containing mixtures to liquid fuels and chemicals** Moti Herskowitz, Nora Meiri, Yakov Dinburg, Meital Amoyal, Viatcheslav Koukouliev, Roxana Vidruk Nehemya and Miron V. Landau *Ben-Guiron University of the Negev*	Paper 6585
11:30	Discussion	
12.45	Lunch	
	CO_2 reduction reactions Session Chair: Michele Aresta	
14:00	**Plasma-based conversion of CO_2: current status and future challenges** Annemie Bogaerts, Tomas Kozak, Koen van Laer and Ramses Snoeckx *University of Antwerp*	Paper 6608

14:05	**Taming microwave plasma to beat thermodynamics in CO_2 dissociation** Gerard van Rooij, D. C. M. van den Bekerom, N. den Harder,a T. Minea, G. Berden, W. A. Bongers, R. Engeln, M. F. Graswinckel, E. Zoethout and M. C. M. van de Sanden *Dutch Institute for Fundamental Energy Research*	Paper 6676
14:10	**Novel windows for "solar commodities": a device for CO_2 reduction using plasmonic catalyst activation** Alexander Navarrete, Sergio Muñoz, Luis M. Sanz-Moral, Juergen J. Brandner, Peter Pfeifer, Ángel Martín, Roland Dittmeyer and María J. Cocero *University of Valladolid, Department of Chemical Engineering and Environmental Technology, High Pressure Processes Group*	Paper 6674
14:15	Discussion	
15:30	Afternoon Tea	
	Wider impacts Session Chair: Katy Armstrong	
16:00	**Environmental potential of carbon dioxide utilization in the polyurethane supply chain** André Bardow, Niklas von der Assen, André Sternberg and Arne Kätelhön *RWTH Aachen University*	Paper 6663
16:05	**A framework for the analysis of the security of supply of utilising carbon dioxide as a chemical feedstock** Eric Fraga and Melvin Ng *University College London*	Paper 6641
16:10	**Investigating public perceptions of carbon dioxide utilisation (CDU) technology: a mixed methods study** Christopher Jones, D. Kaklamanou, W. M. Stuttard, R. L. Radford and J. Burley *University of Sheffield*	Paper 6656
16:15	Discussion	
17:30	Poster Session and Wine Reception *Sponsored by Cogent*	
19:00	Conference Dinner	

Wednesday 9 September

	Capture agents and conversion mechanisms Session Chair: Geoffrey Maitland	
09:00	**Extraction of $Mg(OH)_2$ from Mg silicate minerals with NaOH assisted with H_2O: implications for CO_2 capture from exhaust flue gas** Michael Priestnall, Silvia Madeddu, Erik Godoy, R. Vasant Kumar, Sugat Raymahasay, Michael Evans, Ruofan Wang, Seabelo Manenye and Hajime Kinoshita *Cambridge Carbon Capture*	Paper 6242
09:05	**CO_2 capture and electrochemical conversion using super basic $[P_{66614}]$[124Triz]** Christopher Hardacre, Nathan Hollingsworth, S. F. Rebecca Taylor, Miguel T. Galante, Johan Jacquemin, Claudia Longo, Katherine B. Holt and Nora H. de Leeuw *University College London*	Paper 6568
09:10	**Highly optimized CO_2 capture by inexpensive nanoporous covalent organic polymers and their amine composite** Cafer Tayyar Yavuz and Hasmukh A. Patel *Korea Advanced Institute of Technology and Science*	Paper 6678
09:15	Discussion	
10:30	Morning Tea	
	Biotransformations and biomimetics Session Chair: Alessandra Quadrelli	
11:00	**Solar energy utilization in the direct photocarboxylation of 2,3-dihydrofuran using CO_2** Michele Aresta, Angela Dibenedetto, Tomasz Baran, Szymon Wojtyład and Wojciech Macykd *ChBE-NUS, Singapore and CIRCC-IT*	Paper 6238
11:05	**CO_2 capture systems based on saccharides and organic superbases** Gonçalo Carrera, N. Jordão, L. C. Branco and M. Nunes da Ponte *LAQV, REQUIMTE, Universidade Nova de Lisboa*	Paper 6670
11:10	**An enriched electroactive homoacetogenic biocathode improves the microbial electrosynthesis of acetate through carbon dioxide reduction** Deepak Pant, Gunda Mohanakrishna, Jai Sankar Seelam and Karolien Vanbroekhoven *VITO, Flemish Institute for Technological Research*	Paper 6246
11:15	Discussion	
12:30	**Concluding Remarks Lecture** Walter Leitner *RWTH Aachen University*	
13:15	**Acknowledgements**	
13:20	**Close of meeting and lunch**	

Presenting authors are indicated in the programme by an underline. The affiliation is for the presenting author. If the presenting author of your paper has changed since abstract selection please email events@rsc.org. Please note that this is a draft programme and timings may change.