

# Bio-Resources: Feeding a Sustainable Chemical Industry

Faraday Discussion



19-21 June 2017  
London, UK

## Monday 19 June

11:00	Registration, Tea and Coffee	
12:00	Lunch	
12:45	<b>Welcome and Introductions</b> James Clark, <i>Chair of Scientific Committee</i>	
12:55	<b>Outline of Discussion Format</b> Suzanne Howson and Donna Smith, <i>Royal Society of Chemistry Publishing Editors</i>	
13:00	<b>Introductory Lecture</b> (Session Chair: James Clark) <b>Scalable feedstocks for a sustainable bio-fuels and bio-products industry: some early lessons learned and promising directions for the future</b> Bruce Dale <i>Michigan State University</i>	
	<b>Session 1: Bio-based materials</b> (Session Chair: Magda Titirici)	
14:00	<b>Unavoidable food supply chain waste: acid-free pectin extraction from mango peel via subcritical water</b> H. Xia and A. S. Matharu* <i>University of York</i>	<b>Paper 12900</b>
14:05	Discussion of Paper 12900	
14:25	<b>Blend configuration in functional polymeric materials with a high lignin content</b> Yun-Yan Wang, Yi-ru Chen and <u>Simo Sarkanen*</u> <i>University of Minnesota</i>	<b>Paper 13553</b>
14:30	Discussion of Paper 13553	
14:50	<b>New bio-based monomers: tuneable polyester properties using branched diols from biomass</b> Sacha Pérocheau Arnaud, Linglin Wu, Maria-Angelica Wong Chang, James W. Comerford, Thomas J. Farmer,* Maximilian Schmid, Fei Chang, Zheng Li and <u>Mark Mascal*</u> <i>University of California, Davis</i>	<b>Paper 12902</b>
14:55	Discussion of Paper 12902	
15:15	General discussion	
15:30	Afternoon tea	
16:00	<b>Tunable and selective hydrogenation of furfural to furfuryl alcohol and cyclopentanone over Pt supported on biomass-derived porous heteroatom doped carbon</b> Xiuyun Liu, Bo Zhang, Benhua Fei, Xiufang Chen*, Junyi Zhang and <u>Xindong Mu*</u> <i>Qingdao Institute of Bioenergy and Bioprocess Technology, Chinese Academy of Sciences</i>	<b>Paper 12901</b>
16:05	Discussion of Paper 12901	
16:25	<b>Selective oxidation of lignocellulosic biomass to formic acid and high-grade cellulose using tailor-made polyoxometalate catalysts</b> Jakob Albert <i>FAU Erlangen-Nürnberg</i>	<b>Paper 13343</b>
16:30	Discussion of Paper 13343	
16:50	<b>Plantics-GX: a biodegradable and cost-effective thermoset plastic that is 100% plant-based</b>	<b>Paper 12904</b>

	Albert H. Alberts and Gadi Rothenberg* <i>University of Amsterdam</i>	
16:55	Discussion of Paper 12904	
17:15	General discussion	
17:30	Lightning presentations (by invitation of the scientific committee)	
18:00	Poster Session and Wine Reception	

## Tuesday 20 June

	<b>Session 2: Bio-based chemicals</b> (Session Chair: Chris Stevens)	
09:00	<b>Selective production of mono-aromatics from lignocellulose over Pd/C catalyst: the influence of acid co-catalysts</b> <u>Xiaoming Huang</u> ,† Xianhong Ouyang,† Bart M. S. Hendriks,† O. M. Morales Gonzalez, Jiadong Zhu, Tamás I. Korányi, Michael D. Boot and Emiel J. M. Hensen* <i>Technische Universiteit Eindhoven</i>	<b>Paper 13464</b>
09:05	Discussion of Paper 13464	
09:25	<b>Challenges in the development of biobased solvents: a case study on methyl(2,2-dimethyl-1,3-dioxolan-4-yl)methyl carbonate as an alternative aprotic solvent</b> Saimeng Jin, Fergal Byrne, Con Robert McElroy, James Sherwood, James H. Clark and <u>Andrew J. Hunt</u> * <i>University of York</i>	<b>Paper 13478</b>
09:30	Discussion of Paper 13478	
09:50	<b>Organic waste as a sustainable feedstock for platform chemicals</b> <u>M. Coma</u> , E. Martínez-Hernández, F. Abeln, Sofia Raikova, Joseph Donnelly, T. C. Arnot, Michael J. Allen, D. D. Hong and C. J. Chuck <i>University of Bath</i>	<b>Paper 13517</b>
09:55	Discussion of Paper 13517	
10:15	General discussion	
10:30	Morning Tea	
11:00	<b>Fractional conversion of microalgae from water blooms</b> Yingdong Zhou, Linling Li, Rui Zhang and <u>Changwei Hu</u> * <i>Sichuan University</i>	<b>Paper 13522</b>
11:05	Discussion of Paper 13522	
11:25	<b>Developing new platform chemicals: what is required for a new biobased molecule to become a platform in the bioeconomy?</b> <u>José-Vitor Bomtempo</u> *, Flávia C. Alves and Fábio Oroski <i>UFRJ - Federal University of Rio de Janeiro</i>	<b>Paper 13557</b>
11:30	Discussion of Paper 13557	
11:50	General discussion	
12:00	Lunch	
	<b>Session 3: Conversion technologies</b> (Session Chair: Peter Seidl)	
13:00	<b>New catalytic strategies for <math>\alpha,\omega</math>-diols production from lignocellulosic biomass</b> Jiayue He, Kefeng Huang, Kevin J. Barnett, Siddarth Krishna, David M. Alonso, Zachary J. Brentzel, Samuel P. Burt, Theodore Walker, Williams F. Banholzer, Christos T. Maravelias, Ive Hermans, James A. Dumesic and <u>George W. Huber</u> * <i>University of Wisconsin-Madison</i>	<b>Paper 12903</b>
13:05	Discussion of Paper 12903	
13:25	<b>The influence of the explosive decompression in steam-explosion pretreatment on the enzymatic digestibility of different biomasses</b> <u>Christoph-M. Seidel</u> *, Thomas Pielhop, Michael H. Studer and Philipp Rudolf von Rohr <i>ETH Zurich Institute of Process Engineering</i>	<b>Paper 13560</b>
13:30	Discussion of Paper 13560	
13:50	<b>Sustainable sources need reliable standards</b> Maxim V. Galkin, Davide Di Francesco, Ulrica Edlund*, and Joseph S. M. Samec* <i>Uppsala University</i>	<b>Paper 13493</b>
13:55	Discussion of Paper 13493	
14:15	General discussion	

14:30	Afternoon Tea	
15:00	<b>A study of biocatalysts based on glucose oxidase</b> E.P. Golikova, N.V. Lakina, O.V. Grebennikova, <u>V.G. Matveeva*</u> and E.M. Sulman <i>Tver State Technical University</i>	<b>Paper 13426</b>
15:05	Discussion of Paper 13426	
15:25	<b>Cellulose nanocrystals by acid vapour: towards more effortless isolation of cellulose nanocrystals</b> Marcel Lorenz, Stefan Sattler, Mehedi Reza, Alexander Bismarck and <u>Eero Kontturi*</u> <i>Aalto University</i>	<b>Paper 13519</b>
15:30	Discussion of Paper 13519	
15:50	<b>Effect of pretreatment severity on the cellulose and lignin isolated from <i>Salix</i> using ionoSolv pretreatment</b> L. Weigand, S. Mostame, A. Brandt-Talbot, T. Welton and <u>J. P. Hallett*</u> <i>Imperial College London</i>	<b>Paper 13515</b>
15:55	Discussion of Paper 13515	
16:15	<b>Fast microwave-assisted acidolysis, a new biorefinery approach for a zero-waste utilisation of lignocellulosic biomass to produce high quality lignin and fermentable saccharides</b> L. Zhou, F. Santomauro, J. Fan, D. Macquarrie, J. Clark, C. Chuck, <u>V. Budarin*</u> <i>University of York</i>	<b>Paper 12907</b>
16:20	Discussion of Paper 12907	
16:40	General discussion	
17:00	Close of sessions	
18:30	Pre-Dinner Drinks	
19:00	Conference Dinner	

### Wednesday 21 June

	<b>Session 4: Feedstocks and analysis</b> (Session Chair: David Constable)	
09:00	<b>Feedstock selection for polymer and chemical production: feedstock-specific recalcitrance</b> Ian P. Wood, Enriqueta Garcia-Gutierrez, Nikolaus Wellner and Keith <u>W. Waldron*</u> <i>Institute of Food Research</i>	<b>Paper 12906</b>
09:05	Discussion of Paper 12906	
09:25	<b>Effect of methanol in controlling defunctionalization of the propyl side chain of phenolics from catalytic upstream biorefining</b> Paola Ferrini, Claudio Chesi, Nicholas Parkin and <u>Roberto Rinaldi*</u> <i>Imperial College London</i>	<b>Paper 13566</b>
09:30	Discussion of Paper 13566	
09:50	<b>An integrated biorefinery concept for conversion of sugar beet pulp into value-added chemicals and pharmaceutical intermediates</b> Max Cárdenas-Fernández, Maria Bawn, Charlotte E. M. Bennett, Penumathsa K. V. Bharat, Fabiana Subrizi, Nurashikin Suhaili, David P. Ward, Sarah Bourdin, Paul A. Dalby, Helen C. Hailes, Peter Hewitson, Svetlana Ignatova, Cleo Kontoravdi, David J. Leak, Nilay Shah, Tom D. Sheppard, John M. Ward and <u>Gary J. Lye*</u>	<b>Paper 13486</b>
09:55	Discussion of Paper 13486	

10:15	<b>Bioelectrochemical conversion of CO<sub>2</sub> to chemicals: CO<sub>2</sub> as next generation biomass feedstock for electricity driven bioproduction</b> Suman Bajracharya, Karolien Vanbroekhoven, Cees Buisman, David Strik and <u>Deepak Pant*</u> <i>VITO</i>	<b>Paper 12899</b>
10:20	Discussion of Paper 12899	
10:40	General discussion	
11:00	Morning Tea	
11:30	<b>Polysaccharide-derived mesoporous materials (Starbon®) for sustainable separation of complex mixtures</b> <u>Vânia G. Zuin</u> , * Vitaliy L. Budarin, * Mario De bruyn, Peter S. Shuttleworth, Andrew J. Hunt, Camille Pluciennk, Aleksandra Borisova, Jennifer Dodson, Helen L. Parker and James H. Clark <i>Federal University of Sao Carlos (UFSCar)</i>	<b>Paper 12905</b>
11:35	Discussion of Paper 12905	
11:55	<b>Use of near infrared spectroscopy for the rapid low-cost analysis of waste papers and cardboards</b> D. J. M. Hayes, M. H. B. Hayes and J. J. Leahy <i>Celignis</i>	<b>Paper 13396</b>
12:00	Discussion of Paper 13396	
12:20	<b>Automation of route identification and optimisation based on data-mining and chemical intuition</b> <u>A. A. Lapkin*</u> , P. K. Heer, P.-M. Jacob, M. Hutchby, W. Cunningham, S. D. Bull and M. G. Davidson <i>University of Cambridge</i>	<b>Paper 12990</b>
12:25	Discussion of Paper 12990	
12:45	General discussion	
13:00	<b>Concluding Remarks Lecture</b> (Session Chair: James Clark) Andrzej Stankiewicz <i>Delft University of Technology</i>	
13:40	<b>Acknowledgements</b>	
13:45	<b>Close of meeting</b>	

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](mailto:events@rsc.org). Please note that this is a draft programme and timings may change.