Advanced Biofuels Research Network

Science symposium:
International biofuels developments

10th November 2016, Novotel Rotorua Lakeside, Tutanekai Street, Rotorua, New Zealand

The Bioenergy Association and Advanced Biofuels Research Network (ABRN) have combined to host a symposium including international and local speakers providing an update on the latest research and market activities for liquid biofuels.

A number of international researchers are in Rotorua for a week of IEA Bioenergy meetings. This will provide a unique opportunity to hear a number of international experts speak at this symposium on their latest research activities and provide updates of the situation of liquid biofuels markets in their respective countries.

The event will cover all liquid transport biofuels, but will specifically be of interest for users of drop-in fuels in road transport, marine and aviation sectors to get an update on progress being made towards having these biofuels available for their applications. The Symposium is also an opportunity to meet others in the sector and get an update on global technology and fuel developments.

The focus of this event will be to:
- Obtain an update of the emerging liquid biofuels market activities
- Hear from international researchers on research progress and biofuels deployment in their countries and where they see the market going
- Build interactions between New Zealand biofuels researchers and industry, government and international research organisations.

The symposium will follow IEA Bioenergy meetings on the preceding days. The programme for the symposium complements the IEA Bioenergy events and attendees at those events are encouraged to also attend this open access symposium.


**Early bird registration until 24 October**

**Conference Sponsors:** The Bioenergy Association welcomes the support of the following sponsors:

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<tr>
<th>Time</th>
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<td>8.30 – 9.00</td>
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| 9.00 – 9.05 | Welcome and Introduction  
Brian Cox, Executive Officer, Bioenergy Association and Ian Suckling, Scion |
| 9.10 – 9.40 | Biofuel opportunities in New Zealand  
Ian Suckling, Scion and Kennie Tsui, Ministry of Business, Employment and Innovation (TBC) |
| 9.40 - 10.10 | The potential and technology challenges of producing renewable aviation fuels  
Susan van Dyk and Jack Saddler, Forest Products Biotechnology/Bioenergy Group, University of British Columbia (Canada) |
| 10.10 – 10.40 | Status of advanced liquid biofuels RD&D in the USA  
James D. McMillan, National Bioenergy Center, National Renewable Energy Laboratory (USA) |
| 10.40 – 11.00 | Tea Break  
Sponsored by ? |
| 11.00 – 11.30 | Techno-economic and environmental assessment of second generation ethanol: Short and long term prospects  
Antonio Bonomú, Tassia L. Junqueira, Mateus F. Chagas, Vera L. R. Gouveia, Marcos D. B. Watanabe and Otavio Cavaletta, Laboratório Nacional de Ciência e Tecnologia do Bioetanol (Brazil) |
| 11.30 – 12.00 | Production and use of biofuels in Sweden and R&D efforts on cellulosic fuels  
Leif Jönsson, Department of Chemistry, KBC Chemical-Biological Centre, Umeå University (Sweden) |
| 12.00 – 12.30 | Fast pyrolysis development and commercial implementation in the Netherlands  
Bert van de Beld, BTG Biomass Technology Group BV (Netherlands) |
| 12.30 – 1.10 | Lunch  
Sponsored by Gull |
| 1.10– 1.40 | Hydrothermal liquefaction of biomass for fuels and chemicals production  
Nicolaus Dahmen, Karlsruhe Institute of Technology (Germany) |
| 1.40 – 2.10 | Catalytic hydroprocessing of fast pyrolysis bio-oil to hydrocarbon fuels  
Alan Zacher, Pacific Northwest National Laboratory (USA) |
| 2.10 – 2.30 | Batch pyrolysis for biochar manufacture: the compromise between emissions compliance and global warming potential  
Jim R. Jones, Nadeem S. A. Caco, Rhonda P. Bridges, Georg D. Ripberger and Anthony H. J., Paterson, Massey University |
| 2.30-3.00 | Poster presentations  
Short presentations for each poster (refer to end of agenda for details) |
| 3.00-3.30 | Poster Session  
Tea break...  
Sponsored by Covey Consulting, |
| 3.30-3.50 | Fuel properties of biodiesel from low grade lipid extracts derived from locally sourced meat processing dissolved air flotation sludge  
Oseweuba Valentine, Zhifa Sun, John Birch, University of Otago |
| 3.50 – 4.10 | Improvement on the production of propyl and butyl esters-based biodiesel.  
T. Homan, University of Bath (UK), Kaveh Shahbaz, M. M. Farid, The University of Auckland |
| 4.10 – 4.30 | Fonterra’s switch to biofuel from an energy return on investment perspective  
Solis Norton, Johne’s Management Ltd |
| 4.30 – 4.50 | Wood-energy industrial symbiosis programme overview  
Samantha Alcaraz, Martin Atkins, Paul Bennett, Melissa Climo, Muthasim Fahmy, Peter Hall, Barbara Hock, Peter Kamp, James Neale, Ian Suckling, Tim Walmsley and Suren Wijeyekoon, Scion, The University of Waikato and GNS Science |
| 4.50 – 5.00 | Student poster award and conclusion..................................................  
Poster Award sponsored by Z Energy |
<p>| 5.00 | Conference Closing |</p>
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<td><strong>Durable and renewable composite materials</strong></td>
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<td>John McDonald-Wharry</td>
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<td><strong>Batch pyrolysis for biochar manufacture: modelling and validation</strong></td>
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<td>Nadeem S. A. Caco, Rhonda P. Bridges, Jim R. Jones, Georg D. Ripberger, Massey University</td>
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<td><strong>Characterization of bio-oils and chars from fast pyrolysis of torrefied woods</strong></td>
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<td>Xing Xin, University of Canterbury/Scion, Kirk Torr, Ferran De Miguel Mercader, Scion, Shusheng Pang, University of Canterbury</td>
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<td><strong>Effect of water soluble inhibitors from steam pretreated <em>Pinus radiata</em> on enzymatic digestibility</strong></td>
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<td>Jessica J MacAskill, Merilyn Manley-Harris, The University of Waikato, Ian D Suckling, John A Lloyd, Scion</td>
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<td><strong>Efficient nanoscale energy processes in biofuel production and use</strong></td>
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<td>Katharine J. Challis, Scion, Phuong T. T. Nguyen, Scion/University of Otago, Jared Lopez-Alamilla, and Michael W. Jack, University of Otago</td>
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<td><strong>Mechanism of wet ball milling based on observed micromorphological changes and its significance on saccharification of <em>Pinus radiata</em> substrate at low enzyme loading</strong></td>
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<td><strong>New Zealand Biofuels Roadmap: A qualitative perspective</strong></td>
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<td>Sandra J. Velarde, Carel Bezuidenhout, Scion</td>
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<td><strong>New Zealand Biofuels Roadmap</strong></td>
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<td>Paul Bennett, Carel Bezuidenhout, Ginny Christians, Ferran de Miguel Mercader, Peter Hall, Barbara Hock, Juan Monge, Ian Suckling, Sandra Velarde, Steve Wakelin, Suren Wijeyekoon, Scion</td>
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<td><strong>Overcoming the ‘valley of death’: Pathways for building critical mass for biofuel production</strong></td>
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<td>Sandra J. Velarde, Australian National University</td>
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