

# Science symposium: International biofuels developments

10<sup>th</sup> 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:

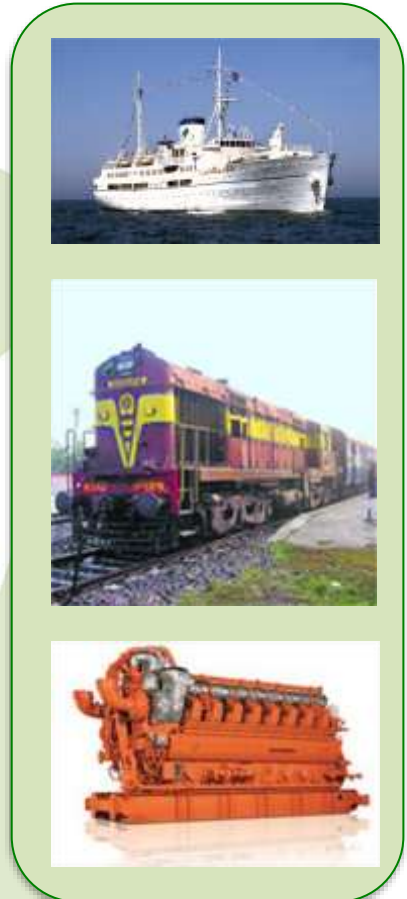
- Obtain an update of the emerging liquid biofuels market activities
- Hear from international researchers on research progress and biofuels deployment in their countries and where they see the market going
- Build interactions between New Zealand biofuels researchers and industry, government and international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

**Registration:** <http://www.bioenergy.org.nz/event/science-symposium-international-biofuels-developments>

**Early bird registration until 24 October**

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



# ABRN Dinner

9 November 2016, Novotel Hotel, Rotorua

<b>7pm</b>	<b>Novotel Hotel, Lake End, Tutanekei Street, Rotorua</b>
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## Conference Programme

10 November 2016, Novotel Hotel, Rotorua

<b>8.30 – 9.00</b>	<b>Registration</b>
<b>9.00 – 9.05</b>	<b>Welcome and Introduction</b> Brian Cox, Executive Officer, Bioenergy Association and Ian Suckling, Scion
<b>Session One – Chair: Martin Atkins, The University of Waikato</b>	
<b>9.10 – 9.40</b>	<b>Biofuel opportunities in New Zealand</b> Ian Suckling, Scion and Kennie Tsui, Ministry of Business, Employment and Innovation (TBC)
<b>9.40 - 10.10</b>	<b>The potential and technology challenges of producing renewable aviation fuels</b> Susan van Dyk and <u>Jack Saddler</u> , Forest Products Biotechnology/Bioenergy Group, University of British Columbia (Canada)
<b>10.10 – 10.40</b>	<b>Status of advanced liquid biofuels RD&amp;D in the USA</b> James D. McMillan, National Bioenergy Center, National Renewable Energy Laboratory (USA)
<b>10.40 – 11.00</b>	<b>Tea Break</b> <b>Sponsored by ?</b>
<b>Session Two – Chair: Shusheng Pang, University of Canterbury</b>	
<b>11.00 – 11.30</b>	<b>Techno-economic and environmental assessment of second generation ethanol: Short and long term prospects</b> <u>Antonio Bonomi</u> , 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)
<b>11.30 – 12.00</b>	<b>Production and use of biofuels in Sweden and R&amp;D efforts on cellulosic fuels</b> Leif Jönsson, Department of Chemistry, KBC Chemical-Biological Centre, Umeå University (Sweden)
<b>12.00 – 12.30</b>	<b>Fast pyrolysis development and commercial implementation in the Netherlands</b> Bert van de Beld, BTG Biomass Technology Group BV (Netherlands)
<b>12.30 – 1.10</b>	<b>Lunch</b> <b>Sponsored by Gull</b>
<b>Session Three – Chair: TBC</b>	
<b>1.10– 1.40</b>	<b>Hydrothermal liquefaction of biomass for fuels and chemicals production</b> Nicolaus Dahmen, Karlsruhe Institute of Technology (Germany)
<b>1.40 – 2.10</b>	<b>Catalytic hydroprocessing of fast pyrolysis bio-oil to hydrocarbon fuels</b> Alan Zacher, Pacific Northwest National Laboratory (USA)
<b>2.10 – 2.30</b>	<b>Batch pyrolysis for biochar manufacture: the compromise between emissions compliance and global warming potential</b> <u>Jim R. Jones</u> , Nadeem S. A. Caco, Rhonda P. Bridges, Georg D. Ripberger and Anthony H. J., Paterson, Massey University
<b>2.30-3.00</b>	<b>Poster presentations</b> Short presentations for each poster (refer to end of agenda for details)
<b>3.00-3.30</b>	<b>Poster Session</b> <b>Tea break...</b> <b>Sponsored by Covey Consulting,</b>
<b>Session Four – Chair: TBC</b>	
<b>3.30-3.50</b>	<b>Fuel properties of biodiesel from low grade lipid extracts derived from locally sourced meat processing dissolved air flotation sludge</b> <u>Oseweuba Valentine</u> , Zhifa Sun, John Birch, University of Otago
<b>3.50 – 4.10</b>	<b>Improvement on the production of propyl and butyl esters-based biodiesel.</b> T. Homan, University of Bath (UK), <u>Kaveh Shahbaz</u> , M. M. Farid, The University of Auckland
<b>4.10 – 4.30</b>	<b>Fonterra's switch to biofuel from an energy return on investment perspective</b> Solis Norton, Johnes Management Ltd
<b>4.30 – 4.50</b>	<b>Wood-energy industrial symbiosis programme overview</b> Samantha Alcaraz, <u>Martin Atkins</u> , Paul Bennett, Melissa Climo, Muthasim Fahmy, Peter Hall, Barbara Hock, Peter Kamp, James Neale, <u>Ian Suckling</u> , Tim Walmsley and Suren Wijeyekoon, Scion, The University of Waikato and GNS Science
<b>4.50 – 5.00</b>	<b>Student poster award and conclusion.....</b> <b>Poster Award sponsored by Z Energy</b>
<b>5.00</b>	<b>Conference Closing</b>

Posters:

**Durable and renewable composite materials**

John McDonald-Wharry

**Batch pyrolysis for biochar manufacture: modelling and validation**

Nadeem S. A. Caco, Rhonda P. Bridges, Jim R. Jones, Georg D. Ripberger, Massey University

**Characterization of bio-oils and chars from fast pyrolysis of torrefied woods**

Xing Xin, University of Canterbury/Scion, Kirk Torr, Ferran De Miguel Mercader, Scion, Shusheng Pang, University of Canterbury

**Effect of water soluble inhibitors from steam pretreated *Pinus radiata* on enzymatic digestibility**

Jessica J MacAskill, Marilyn Manley-Harris, The University of Waikato, Ian D Suckling, John A Lloyd, Scion

**Efficient nanoscale energy processes in biofuel production and use**

Katharine J. Challis, Scion, Phuong T. T. Nguyen, Scion/University of Otago, Jared Lopez-Alamilla, and Michael W. Jack, University of Otago

**Mechanism of wet ball milling based on observed micromorphological changes and its significance on saccharification of *Pinus radiata* substrate at low enzyme loading**

Alankar A. Vaidya, Sylke H. Campion, Lloyd A. Donaldson, John A. Lloyd, Karl D. Murton, Roger H. Newman and Ian D. Suckling, Scion

**New Zealand Biofuels Roadmap: A qualitative perspective**

Sandra J. Velarde, Carel Bezuidenhout, Scion

**New Zealand Biofuels Roadmap**

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

**Overcoming the 'valley of death': Pathways for building critical mass for biofuel production**

Sandra J. Velarde, Australian National University