

Proceedings of

13th International Congress on

BIOFUELS & BIOENERGY

and

BIOFUELS & BIOECONOMY

October 18-20, 2018 | Ottawa, Canada



Day 1 October 18, 2018

Conference Hall: Diefenbaker

08:00-08:30 Registrations

08:30-09:00 Opening Ceremony

Keynote Forum

Introduction

09:00-09:30 **Title: How do we make bioeconomy and biofuels research relevant and accessible to politicians, the public, industry, and the media?**

Anton Holland, NIVA Inc., Canada

09:30-10:00 **Title: Thermo Catalytic Reforming (TCR[®]) sustainable resources from sewage sludge and organic waste**

Bruce Hillen, Susteen Technologies Canada Ltd., Canada

10:00-10:30 **Title: Dual fuel combustion in compression ignition engines and the application for low carbon fuels**

Hongsheng Guo, National Research Council Canada, Canada

Networking & Refreshment Break 10:30-10:50

10:50-11:20 **Title: An overview of renewable fuels ethanol from cellulose and bio-diesel from conventional/algae feed status and economic options for ETBE**

Amarjit Bhakshi, Refining Hydrocarbon Technologies LLC, USA

11:20-11:50 **Title: Implantable biofuel cells operating *in vivo*— Potential power sources for bioelectronic devices**

Evgeny Katz, Clarkson University, USA

Panel Discussion: 11:50-12:10

Sessions I: Biomass | Biomass feed stocks for renewable energy generation | Biomass technologies

Session Chair: Roger Ruan, University of Minnesota, USA

Session Introduction

12:10-12:35 **Title: Microwave assisted fast catalytic pyrolysis and gasification of biomass for biofuels and bioenergy production**

Roger Ruan, University of Minnesota, USA

12:35-13:00 **Title: Flexible bioenergy system integration into energy supply systems of urban areas**

Rafal Strzalka, Stuttgart University of Applied Sciences, Germany

Lunch Break 13:00-14:00

14:00-14:25 **Title: Lessons from IPRs involving biomass-related patents**

Peter A Jackman, Sterne, Kessler, Goldstein & Fox PLLC, USA

14:25-14:50 **Title : Business in emerging bioeconomy. How can forest biomass help emerging economies in Eastern Europe?**

Cristian Panaite, ForstPan, Romania

Panel Discussion 14:50-15:00

Sessions II: Advanced Biofuels | Production of Biofuels

Session Chair: Elsa Weiss-Hortala, IMT Mines Albi, France

15:00-15:25 **Title: Properties of biofuels versus petrofuels as transportation fuels**

M R Riazi, Kuwait University, Kuwait

15:25-15:50 **Title: Impact of composition of kitchen waste for biofuel production under hydrothermal liquefaction condition**

Elsa Weiss-Hortala, IMT Mines Albi, France

Networking & Refreshment Break 15:50-16:10

16:10-16:35 **Title: A novel approach to monitoring and controlling biofilms in an ethanol cooling system resulting in maximized ethanol production and minimized corrosion failures of piping and heat exchangers**

Andrew Ledlie, Solenis Canada ULC, Canada

- 16:35-17:00** Title: **Maximizing IP protection of lignocellulosic biofuel technology: Challenges and opportunities**
Wendy E Lamson, Perley-Robertson, Hill & McDougall, Canada
- 17:00-17:25** Title: **Utilization of waste biomass for fuel and energy productions using large-scale plants with hydrothermal treatment**
Takeshi Sako, Shizuoka University, Japan
- 17:25-17:50** Title: **Bio-Fuels: Need of the hour**
Satindar Kaur, Guru Nanak Dev University, India

Panel Discussion 17:50-18:00

Day 1 Concludes...

Day 2 October 19, 2018

Conference Hall: Diefenbaker

Keynote Forum

- 09:00-09:30** Title: **Biofuel & Bioenergy in the energy mix**
Anumakonda Jagadeesh, Nayudamma Centre for Development Alternatives, India
- 09:30-10:00** Title: **Advanced Biofuels: Opportunities and challenges**
Lorenz Bauer, LJBill Chemical Consulting, USA
- 10:00-10:30** Title: **Cascade utilization of biomass waste for the production of high quality BDF whose price is competitive to petro-diesel**
Yasuaki Maeda, Osaka Prefecture University, Japan

Networking & Refreshment Break 10:30-10:50

- 10:50-11:20** Title: **Syngas cleaning and characterization**
Ange Nzihou, IMT Mines Albi, France

Panel Discussion 11:20-11:35

Sessions: Bioenergy | Biorefineries | Biogas

Session Chair: Deepika Awasthi, Lawrence Berkeley National Laboratory, USA

- 11:35-12:00** Title: **Conversion of methane to bio-products by an engineered microbial platform**
Deepika Awasthi, Lawrence Berkeley National Laboratory, USA
- 12:00-12:25** Title: **Development of a simplified model for design of CHP systems to operate on residual, low-value feedstocks**
Jennifer Littlejohns, National Research Council Canada, Canada
- 12:25-12:50** Title: **Biosynthesis of the platform chemical 3-hydroxypropionate**
Guang Zhao, Chinese Academy of Sciences, China

Lunch Break 12:50-13:50

- 13:50-14:15** Title: **Concept and challenges of modern biorefineries**
Alex Michine, MetGen, Finland
- 14:15-14:40** Title: **Biomass tar removal using wet packed-bed scrubber**
Samira Lotfi, National Research Council Canada, Canada

Panel Discussion: 14:40-15:00

Young Researcher Forum

- 15:00-15:20** Title: **Valorisation of rice straw by using it as a substrate for production of cellulolytic-hemicellulolytic enzyme cocktail and second generation ethanol**
Jaspreet Kaur, Panjab University, India
- 15:20-15:40** Title: **Co-pyrolysis of synthetic oily waste containing heavy metals: Influence of operational conditions on the oil recovery and heavy metal immobilization**
Yuan Tian, University of Northern British Columbia, Canada
- 15:40-16:00** Title: **Mixture design of wastes hydrolysis by amylase, xylanase and cellulase rich extracts**
Vanessa Elisa Pinheiro, Universidade de São Paulo, Brazil

Networking & Refreshment Break 16:00-16:20

16:20-16:40 **Title: Sustainability assessment of arid crops for the American southwest bioeconomy**
Hailey Summers, Colorado State University, USA

Panel Discussion 16:40-16:55

Poster Presentations 16:55-17:45

P 01 **Title: Biodiesel fuel synthesis using dolomite as catalyst**
Egle Sendzikiene, Aleksandras Stulginskis University, Lithuania

P 02 **Title: Syngas upgrading to SNG: Demonstration units in Europe**
F Javier Escudero Sanz, IMT Mines Albi, France

P 03 **Title: Small farms and biogas production in Brazil**
Bruno Henrique Crespo Porto, Brasília University, Brazil

P 04 **Title: Cleaning of a renewable energy source with vitreous waste and natural zeolite membranes**
Lianys Ortega Viera, Technological University of Havana, Cuba

P 05 **Title: Preparation and characterization of biomass carbon-based solid acid catalysts for the esterification biodiesel from marine algae**
Abdulaziz A Al-Saadi, King Fahd University of Petroleum and Minerals, Saudi Arabia

Best Poster Certification 17:45-18:00

Day 2 Concludes...

Day 3 October 20, 2018

Conference Hall: Diefenbaker

Sessions: Algae Biofuels | Biodiesel | Renewable Energy | Food Vs Fuels Debate

Session Chair: Seema Singh, Sandia National Laboratories, USA

09:00-09:25 **Title: Scaling-up bio-diesel blending with high speed diesel by exploring new feedstock to substitute the growing demand of fossil fuel to ensure a greener planet**
Shantanu Gupta, Indian Oil Corporation Limited, India

09:25-09:50 **Title: A comparative study of biocrude production from two marine microalgae biomass produced in large scale raceway pond**
Probir Das, Qatar University, Qatar

09:50-10:15 **Title: Assessment of lipid productivity and biodiesel quality prediction in *Chlorella sorokiniana* and *Botryococcus spp***
Dolly Wattal Dhar, ICAR-Indian Agricultural Research Institute, India

10:15-10:40 **Title: Suncor Energy – Sustainable development based on innovation**
Mario Ochoa, Suncor Energy Inc., Canada

Networking & Refreshment Break 10:40-11:00

11:00-11:25 **Title: Adding waste scrap iron to enhance anaerobic digestion of sewage sludge and production of methane**
Yaobin Zhang, Dailan University of Technology, China

11:25-11:50 **Title: Production of a universal plant-based substrate system for cellulase activity assays**
Kathleen Hefferon, Cornell University, USA

11:50-12:15 **Title: Compatibility of sealing materials with biofuels and biodiesel heating oil blends at different temperatures**
Margit Weltschev, The Federal Institute for Materials Research and Testing, Germany

12:15-12:40 **Title: Study of crustaceans and bivalves residue as catalyst in the synthesis of biojet fuel and biodiesel**
Claudia C Cardoso, Federal Rural University of Pernambuco, Brazil

12:40-13:05 **Title: Streamlining of forest flow for lasting and long-term bio-based economy**
Matts Lilja, Tracy of Sweden AB, Sweden

Panel Discussions & Closing Ceremony 13:05-13:15

Lunch Break 13:15-14:15

Refreshment Break 16:00-16:20