Program

BIOENERGY-II: FUELS AND CHEMICALS FROM RENEWABLE RESOURCES

March 8 - 13, 2009

Intercontinental Hotel Rio
AV Prefeito Medes De Morais 222
Rio De Janeiro, Brazil 22610-095
Tel: 55-21-3323-2200    Fax: 55-21-3323-2295

Co-Chairs:
Dr. Muthanna Al-Dahhan
Missouri University of Science and Technology, USA
Dr. Cedric Briens
University of Western Ontario, Canada
Dr. Jose Duarte
INETI, Portugal

Dr. Jose Dilcio Rocha
EMBRAPA-Agroenergia, Brazil

Engineering Conference International
32 Broadway, Suite 314
New York, NY 10004, USA
Phone: 1-212-514-6760, Fax: 1-212-514-6030
www.engconfintl.org – info@engconfintl.org
Engineering Conferences International (ECI) is a not-for-profit global engineering conferences program, originally established in 1962, that provides opportunities for the exploration of problems and issues of concern to engineers and scientists from many disciplines.

ECI BOARD MEMBERS

Barry C. Buckland, President
   Peter Gray
   Allen I. Laskin
   Raymond McCabe
   David Robinson
   Jules Routbort
   William Sachs
   Eugene Schaefer
   P. Somasundaran

Chair of ECI Conferences Committee: William Sachs
ECI Technical Liaison for this conference: Franco Berruti

ECI Director: Barbara K. Hickernell
ECI Associate Director: Kevin M. Korpics

©Engineering Conferences International
SUNDAY, MARCH 8, 2009

16:00 – 18:00  Registration
18:00 – 19:00  Reception
19:00 – 20:30  Dinner

NOTES – THIS NEEDS TO BE REVISED PER THIS EVENT INFO

• Technical sessions will be held in Quartzo A and B
• Lunches will be in the Monseigneur
• Dinners will be in the Monseigneur
• Posters will be in the Topazio & Turmalina. Posters should be hung the morning of your assigned day of presentation and should be removed after your assigned session in order to make room for the next day’s presentations.
• Breakfasts will be in the A Varanda Restaurant
• Audiotaping, videotaping and photography of presentations are strictly prohibited.
• Speakers – Please leave at least 5 minutes for questions and discussion.
• Please do not smoke at any conference functions.
• Turn your cellular telephones to vibrate or off during technical sessions.
• Be sure to make any corrections to your name/contact information on the Master Participant List or confirm that the listing is correct. A corrected copy will be sent to all participants after the conference.
07:30 – 08:30  Breakfast

08:30 - 09:30  Elba Pinto da Silva Bon, Universidade Federal do Rio de Janeiro, Brazil
"Historical and Recent Developments in the Enzymatic Hydrolysis of Brazilian Feedstocks for Ethanol Production"

09:30 – 09:45  Andriy A. Sibirny, NAS of Ukraine, Russia
Development of non-conventional yeast hansenula polymorpha for high-temperature fuel ethanol production from lignocellulosic residues [CANCELLED]

09:45 – 10:00  Kim Olofsson, Lund University, Sweden
Designing an SSCF process for bioethanol production from lignocellulosic substrates by co-fermentation of xylose and glucose

10:00 – 10:15  Michael A. Cotta, NCAUR-ARS-USDA, USA
Conversion of lower lignin mutants of sorghum bicolor (L) to ethanol

10:15 – 10:45  Coffee Break

10:45 – 11:00  Mose Rossi, Institute of Protein Biochemistry-C.N.R, Italy
Thermophilic enzymes for biomass conversion

11:00 – 11:15  J.C. Duarte, INETI, Department of Biotechnology, Portugal
Ethanol production from different substrates by a flocculent *Saccharomyces cerevisiae* strain [CANCELLED]

11:15 – 11:30  Daewon Pak, Seoul National University of Technology, Korea

11:30 – 11:45  Jingquan Lu, Bioprocess Science and Technology Group, Risø-DTU, Denmark
Dependence of a thermoanaerobacter mutant (strain A10) on nutrients in the production of ethanol from wheat straw

11:45 – 12:00  Aiduan Li, University College London, United Kingdom
Bioethanol from municipal solid waste: the role of biomass properties and structures during the ethanol conversion process

12:00 – 13:30  Lunch

13:30 – 17:30  FREE TIME

17:30 - 17:45  Vingjay Singh, University of Illinois at Urbana-Champaign, USA
Increasing corn throughput dry grind process for ethanol production

17:45 – 18:00  Anthony J. Clarke, University of Guelph, Canada
Real-time observation of cellulose biodegradation by atomic force microscopy

18:00 – 18:15  Geng Anli, Ngee Ann Polytechnic,
Comparison of laboratory and industrial *Saccharomyces cerevisiae* for their inhibitor resistance and xylose utilization

18:15 – 18:30  Meik Wusterhausen, Geesthacht GmbH Institute of Polymer Research, Germany
High performance vapor permeation with organic membranes for dewatering ethanol and other organic solvents
18:30 – 18:45   Break

MONDAY, MARCH 9, 2009 CONTINUED

18:45 – 19:00   **Byoung-In Sang**, Korea Institute of Science and Technology, Korea
Membrane-extractive butanol production by immobilized clostridium BEIJERINCKII NCIMB 8052

19:00 – 19:15   **Fabio Napoli**, University of Studies of Napoli Federico II, Italy
Assessment of kinetics for butanol production by clostridium acetobutylicum

19:15 – 19:30   **Bo Liao**, University of Saskatchewan, Canada
Use of genetically modified saccharomyces cerevisiae to convert soluble starch directly to ethanol

19:30- 21:00   Dinner

21:00- 23:00   Poster Session with Social Hour
TUESDAY, MARCH 10, 2009

07:30 – 08:30  Breakfast

08:30 – 09:30  **Eduardo Cavalcanti**, Instituto Nacional de Tecnologia, Brazil
Oxidation, Thermal and Storage Stability and Materials Compatibility of Brazilian Soy Methylic Biodiesel

09:30 – 09:45  **Shijie Liu**, Sunny ESF, USA
Conversion of woody biomass to energy, chemicals and materials

09:45 – 10:00  **Ho Nam Chang**, Korea Advanced Institute of Science & Technology, Korea
Biofuel production from biomass-derived volatile fatty acid platform

10:00 – 10:15  **Sylvio Ortega Filho**, PHB Industrial S/A, Brazil
Production of renewable biopolymers (PHB, PHB-HV) based in a biorefinery concept

10:15 – 10:45  Coffee Break

10:45 - 11:00  **Fernando Preto**, Natural Resources Canada, Canada
Supply and properties of agricultural residues suitable for bioenergy application

11:00 – 11:15  **Jan Piskorz**, Resource Transforms International, Canada
Hydrous thermolysis of biomass production of Hodge’ Carbonlys and Oligomeric Lignin

11:15 – 11:30  **Mohamed Hamed**, Washington University in St. Louis, USA
Mixing characteristics of bubble columns with internals for biomass to liquid synthesis

11:30 – 11:45  **Balaji Balagurunathan**, Institute of Chemical and Engineering Sciences, Singapore, Singapore
In silico analysis for the production of higher carbon alcoholis using saccharomyces cerevisiae

11:45 – 12:00  **Clay M. Horiuchi**, University of Colorado at Boulder, USA
Investigating catalyst design strategies for selective reaction of Cyclic C₄ oxygenates from biomass through use of spectroscopic techniques

12:00 – 12:15  **Gianluca Marcotullio**, Delft University of Technology, The Netherlands
Selective production of furfuralfrom CS sugars contained in biomass, reaction kinetic assessment

12:15 – 12:30  **Juray De Wilde**, Universite catholique de Louvain, Belgium
A novel tao-glyverol based extraction- re-extraction process for the separation of chemicals produced by acidogenic fermentation of biomass

12:30- 14:00  Lunch

14:00- 19:00  Free Time

19:00- 20:30  Dinner

20:30 – 22:00  Poster Session and Social Hour
**WEDNESDAY, MARCH 11, 2009**

07:30 – 08:30  Breakfast

08:30 – 9:30  **Fernando Preto**, Natural Resources Canada, Canada  
Biofuels and Biochemicals: Investment Opportunities?

09:30 - 09:45  **Dietrich Meier**, vTI-Institute of Wood Technology and Wood Biology, Germany  
Comparative fast pyrolysis of agricultural residues for use in biorefineries

09:45 – 10:00  **Piotr Oleskowicz-Popiel**, Technical University of Denmark, Denmark  
A simulation model of combined biogas, bioethanol and protein fodder coproduction in organic farming

10:00 – 10:15  **Ahmed Youssef**, Washington University in St. Louis, USA  
Novel design of multiphase reactors for biomass-to-liquid synthesis

10:15 – 10:45  Coffee Break

10:45 – 11:00  **Ran Xu**, The University of Western Ontario, Canada  
Pyrolysis of agricultural wastes into bio-oil in a bubbling fluid bed pilot plant

11:00 – 11:15  **B. Vreugdenhil**, Energy research Centre of the Netherlands (ECN), The Netherlands  
Scale-up of the milena gasification process for the production of bio-sng

11:15 – 11:30  **Muthanna Al-Dahhan**, Washington University in St. Louis, USA  
Advanced measurement and computational techniques for optimizing the design and scale-up strategy for biogas production via anaerobic digestion

11:30 – 11:45  **Li Chen**, Commissariat à l'Energie Atomique (CEA), France  
FAST PYROLYSIS UNDER GASIFICATION CONDITIONS: INFLUENCE OF PARTICLE SIZE, REACTOR TEMPERATURE AND GAS PHASE REACTIONS

11:45 – 12:00  **E. Simeone**, Delft University of Technology, The Netherlands  
Study of the behavior of a catalytic ceramic candle filter in a lab-scale unit at high temperatures

12:00 – 13:30  Lunch

13:30 – 17:00  Free Time

17:00 – 17:15  **Jesús Arauzo**, University of Zaragoza, Spain  
Synthesis gas by catalytic steam reforming of bio-oil

17:15 – 17:30  **Mohammad Latifi**, Institute for Chemicals and Fuels from Alternative Resources (ICFAR), Canada  
Effects of temperature and residence time on the thermal cracking of bio-oil for syngas production

17:30 – 17:45  **Avdhesh Kr. Sharma**, DCR University of science and Technology, India  
Exergy analysis of thermochemical conversion of woody biomass in fixed bed gasifiers
WEDNESDAY, MARCH 11, 2009

17:45 – 18:00  Capucine Dupont, Commissariat à l’Energie Atomique, France
Suitability of wood chips from forestry and different biomass feedstocks for use in a semi-industrial plant of BTL production by gasification

18:00 – 18:15  Isabel Paula Marques, Universidade do Minho, Paraguay
Anaerobic digestion of OMW: anaerobic filter vs. hybrid

18:15 – 18:30  Fernando Preto, Natural Resources Canada, Canada
Combustion of pyrolysis ‘bio-oils’ in a tunnel furnace

18:30 – 18:45  Break

18:45 – 19:00  Christina J. Booker, University of Western Ontario, Canada
Characterization of bio-oils from agricultural biomass as potential pesticides

19:00 – 19:15  Martin Huard, The University of Western Ontario, Canada
Development of a novel integrated gas-solid separator for pyrolysis reactors

19:15 – 19:30  M. Hakký Almaa, University of Kahramanmaras Sutcu Imam, Turkey
Solvolysis of wood by using bio-oil from wood

19:30 – 19:45  Paul de Wild, Energy research Centre of the Netherlands (ECN), The Netherlands
Biomass valorization by a hybrid thermochemical fractionation approach

19:45 – 20:00  Denilson DA SILVA PEREZ, Institut Technologique FCBA, France
The Impact of storage conditions on the forest biomass quality for biofuels production

20:00 – 21:30  Dinner

21:30 – 23:30  Poster Session with Social Hour
THURSDAY, MARCH 12, 2009

08:00 – 09:00 Breakfast

09:00 – 10:00 Palligarnai T Vasudevan, University of New Hampshire, USA
Biodiesel production – Current state of the art and challenges

10:00 – 10:15 Jose Gerlado A. Pacheco, Universidade Federal de Pernambuco – UFPE, Brazil
Production of ethyllic biodiesel from hydrolysis and estheryfication of acidic fat residues

10:15 - 10:30 Jesús Arauzo, University of Zaragoza, Spain
Hydrogen from catalytic steam reforming of bio-oil in a bench scale fluidized bed

10:30 – 10:45 Muthanna Al-Dahhan, Washington University in St. Louis, USA
Microalgae culturing via advanced measurement and computation techniques for bioenergy production

10:45 – 11:15 Coffee Break

11:15 – 11:30 Zahira Yaakob, Universiti Kebangsaan Malaysia, Malaysia
Transtersterification of Jatropha Curcas oil radiated with the Gamm Ray

11:30 – 11:45 Erin E. Powell, University of Saskatchewan, Canada
A novel bioreactor design for culture of photosynthetic microorganisms and its use as a cathodic half cell

11:45 – 13:30 Lunch

13:30 – 17:00 Free Time

17:00 – 17:15 Flora Ng, University of Waterlo, Canada
Upgrading waster oil to biodiesel via catalytic distillation

17:15 – 17:30 Jesús Arauzo, University of Zaragoza, Spain
Hydrogen production by aqueous-phase reforming

17:30 – 17:45 Esben Taarning, Haldor Topsøe A/S, Denmark
Fuels and Chemicals from Biomass and Waste

17:45 – 18:00 Nádia Regina Camargo Fernandes Machado, Universidade Estadual de Maringá, Brazil
Temperature effect of hydrogen production from reactions between ethanol and steam in the presence of PD-RU/Nb2O5-TiO2 catalyst.

18:00 – 19:30 Poster Session with Cocktail

19:30 – 23:00 Banquet

FRIDAY, MARCH 13, 2009

...
07:00 – 08:00  Breakfast

08:00 – 9:00  **WORKSHOP I**: Bioethanol-Biobutanol
9:00 – 10:00  **WORKSHOP II**: Biodiesel

10:00 – 10:30  Coffee Break

10:30 – 11:30  **WORKSHOP III**: Thermochemical Conversion into Fuels and Chemicals

11:30 – 12:30  *Ad Hoc* Discussion – What is next? Closing of Conference
12:30 – 13:45  Lunch