

INVITATION

As the demand for use of biomass for the production of energy is increasing, there are still number of major stakes and bottlenecks to overcome. The Pretreatment of biomass prior to Transportation, Storing and Conditionning as well as Energy Efficiency in thermochemical conversion processes such as pyrolysis and gasification are among the focus. Torrefaction appears to be a key process to address these bottlenecks. Torrefaction is a mild heat treatment in the temperature range 250-300°C under inert atmosphere; it has been developed and applied to wood boards in the last decades. It is known to dry and reduce the amount of volatile organic compounds in biomass and to confer valuable properties such as hydrophobicity, resistance to « rotting » but also specific mechanical properties. Properties such as a high energy density and high mechanical fragility are now expected. The co-produced gases and condensable phase also open new sources of potentially recoverable energy, and platform molecules for bio-refinery development.

Several academic and industrial actors around the world are involved in the development of torrefaction following novel thermal histories and better controlled potentially reactive atmospheres, and involving original reactor designs. The expected chemical, physical and mechanical properties of torrefied biomass may vary depending on the downstream uses that cover grinding, pelletisation, (co)combustion, gasification... The determination of these properties also raises new challenges.

The aim of this workshop is to gather various stakeholders from industry, academia and governmental agencies interested in the torrefaction to promote exchanges of knowledge, aiming at new cooperation and potential emergence of new concepts.

ORGANIZING COMMITTEE

- A. Nzihou**, Chair of the Organising Committee, EMAC France
P. Arlabosse, EMAC France **J.M. Commandré**, CIRAD France
C. Dupont, CEA France **J. L. Dirion**, EMAC France
A. Fontes, EMAC France **J.S. Héry**, Thermiya France
D. Matéos, Thermiya France **S. Salvador**, EMAC France

ABSTRACT SUBMISSION

Details on abstract preparation and submission are available from the conference web site.

<http://rapsodee.mines-albi.fr/IWBTE>

TOPICS

Keynote lectures and poster contributions will cover the following topics:

- A. Feedstock
- B. Handling, Transport and Pre-Treatment Processes
- C. Torrefaction Processes – Fundamentals
- D. Torrefaction Processes – Technologies
- E. Post-processing Processes
- F. End-Use of the Torrefied Biomass
- G. Processes Assessment



The conference will take place at the Ecole des Mines d'Albi - Carmaux, located in Albi, southwestern France

CALL FOR PAPERS

International Workshop on Biomass Torrefaction for Energy

**Albi 2012, France
May 10-11**

<http://rapsodee.mines-albi.fr/IWBTE>



ECOLE DES MINES D'ALBI
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energie atomique - energies alternatives



LA RECHERCHE AGRONOMIQUE
POUR LE DEVELOPPEMENT



In collaboration with:



PROGRAMME OF THE KEYNOTES

ABSTRACTS FOR POSTER CAN BE SUBMITTED UNTIL APRIL 10, 2012

FEEDSTOCK Topic :

- TORREFACTION BEHAVIOUR OF VARIOUS BIOMASS TYPES: KINETICS OF SOLID MASS LOSS AND RELEASE OF VOLATILES by **J.M. COMMANDRÉ** (CIRAD), **C. DUPONT** (CEA), E.K. Ould Marrakchy(CEA), T. Nocquet(CEA), C. Verne Tourron (CEA), D. Da Silva Perez (FCBA), F. Labalette(GIE ARVALIS/ONIDOL), P. Rousset (SFB)
- THE DIVERSITY OF TORREFACTION FEEDSTOCK by **E. RYALL** (THERMYA).
- BIOMASS QUALITY FOR THERMOCHEMICAL CONVERSION BIOFUELS by **D. DA SILVA PEREZ** (FCBA)

FUNDAMENTALS Topic :

- HEAT-TREATMENT OF BIOMASS FOR ENERGY PURPOSES: FROM THE IDEAL TREATMENT TO THE PROCESS RESTRICTIONS by **P. PERRÉ** (Ecole Centrale Paris, LGPM), R. Rémond (Univ. de Lorraine, LERMAB), G. Almeida (AgroParistech)

TECHNOLOGIES AND PROCESS Topic :

- WET TORREFACTION – THE HYDROTHERMAL CARBONIZATION OF BIOMASS by **L.G. FELIX** (Gas Technology Institute, USA), S. K. Hoekman (DRI), C. J. Coronella (Univ. Nevada)
- TORSPVD TORREFACTION BY DEPOLYMERISATION by **D. MATEOS** (THERMYA)
- PRE-PROCESS OPTIONS STREAM UPWARDS TORREFACTION by **B.G. VAN BOMMEL** (BioTech BV, NL)
- STATUS OF ECN TORREFACTION TECHNOLOGY by **J. KIEL** (ECN, NL), R. Zwart (ECN, NL), F. Verhoeff (ECN, NL)
- THE TOPELL TORREFACTION PROCESS AND ITS BENEFITS by **R. POST VAN DER BURG** (TOPELL ENERGY B.V.)
- BIOCCAL PRODUCTION, RETURN OF EXPERIENCE by **Y. CRITS** (4ENERGINVEST, BE)
- BIOMASS TORREFACTION: PRODUCT AND PROCESS DEVELOPMENT AT CENER by **J. GIL** (CENER, SP), F. J. Lemus (CENER, SP), I. Echeverria (CENER, SP)
- SECTOR: PRODUCTION OF SOLID SUSTAINABLE ENERGY CARRIERS FROM BIOMASS BY MEANS OF TORREFACTION by **J. KIEL** (ECN, NL), R. Zwart (ECN, NL), J. Witt (DBFZ, D), D. Thrän (DBFZ, D), M. Wojcik (OFI, A), M. Englisch (OFI, A)

POST-PROCESSING PROCESSES Topic :

- COMBUSTION AND GASIFICATION OF CHARS FROM TORREFIED AND RAW BIOMASS by **E.M. FISHER** (Cornell University, USA), C. Dupont (CEA), L.I.Darvell (Leeds Univ.), J.-M. Commandré (CIRAD), A. Saddawi (Leeds Univ.), J.M. Jones (Leeds Univ.), M. Grateau (CEA), T. Noquet (Leeds Univ.), S. Salvador(Mines-Albi)
- RHEOLOGICAL AND MORPHOLOGICAL CHARACTERIZATION OF TORREFIED WOOD BIOMASS by **M. ALMENDROS** (IFPEN), O. Bonnefoy (Mines Saint-Etienne), A. Govin (Mines Saint-Etienne), W. Nastoll (IFPEN), E. Sanz (IFPEN), R. Andreux (IFPEN), R. Guyonnet (Mines Saint-Etienne)

END-USE OF TORREFIED BIOMASS Topic :

- TECHNICAL APPROACH ON TORREFIED WOOD PELLETIZING by **M. CAMPARGUE** (RAGT Energie) et J.M. Commandré (CIRAD)
- DOUBLE DIE PELLETIZER FOR TORREFIED BIOMASS. by **A. BARNARD** (Torrefied Wood Pellet Equipment, CA) and J. Jovani (Torrefied Wood Pellet Equipment, CA)
- A PERSPECTIVE OF REFINED BIOMASS FROM THE END-USERS STAND POINT by **B. MEULEMAN** (Vattenfall/Nuon, NL)

PROCESS ASSESSMENT Topic :

- TECHNO-ECONOMIC ASSESSMENT OF SEVERAL BIOMASS PRETREATMENT CHAINS by **G. BOISSONNET** (CEA), G. Haarlemmer (CEA), P.A. Setier (CEA)
 - THE SUPPLY CHAIN ECONOMICS OF BIOMASS TORREFACTION by **R. LEE** (350 Strategy Ltd., UK) and J. Bingham (Hawkins Wright Ltd, UK)
 - Keynote by Eco Biomass (USA) («*to be confirmed*»)
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