

CONFERENCE PROGRAMME
WEDNESDAY, 14 JUNE 2017

08:30	1CO.1 T1.4	4CO.2 T4.3	3CO.3 T3.7	5CO.4 T5.2	3CV.1 T3.3/3.4/ 3.5	EXHIBITION
10:30	Break					
10:45	Plenary Session 4CP.1					
	Plenary Session 5CP.2					
	Plenary Session ICP.3					
12:30	Lunch Break					
13:30	1CO.5 T1.3	4CO.6 T4.5	3CO.7 T3.7	1CO.8 I6.2	3CV.2 T3.1	
15:00	Break					
15:15	1CO.9 T1.3	4CO.10 T4.5	3CO.11 T3.7	1CO.12 I6.3	2CV.3 T2.4/2.5	
16:45	Break					
17:00	2CO.13 T2.1	4CO.14 T4.3	3CO.15 T3.5	1CO.16 I6.1	2CV.4 T2.6	
18:30	EUBCE Dinner					

WEDNESDAY

1 Biomass Resources T1.3 Biomass crops and energy grasses T1.4 Algae production systems
2 Biomass Conversion Technologies for Heating, Cooling and Electricity T2.1 Production and supply of solid biofuels T2.4 Gasification for power, CHP and polygeneration T2.5 Gasification for synthesis gas production T2.6 Anaerobic digestion for biogas production
3 Biomass Conversion Technologies for fuels, chemicals and materials T3.1 Production of thermally treated solid biofuels T3.3 Oil-based biofuels T3.4 Biomethane T3.5 Bioethanol and sugars from lignocellulosic biomass T3.7 Production and application of biobased chemicals
4 Biomass Policies, Markets and Sustainability T4.3 Environmental impacts of bioenergy T4.5 Biomass strategies and policies
5 Bioenergy in integrated energy systems T5.2 Bioenergy and grid balancing
1 Industry Sessions 6.1 Biomass Resources (Crops, SRF, Algae and Organic Waste) 6.2 Thermochemical conversion processes 6.3 Power & Heat processes and systems

08:30 - 10:00

ORAL SESSION 1CO.1

Microalgae Processing, Process Parameters and Harvesting

ROOM: K21

CHAIRPERSONS:

Frédéric VOGEL, PSI - Paul Scherrer Institut, SWITZERLAND

Scott TURN, University of Hawaii, USA

1CO.1.1

DUNALIELLA TERTIOLECTA MICROALGAE HARVESTING USING ABS MEMBRANES IN VIBRATORY FILTRATION

Monika HAPONSKA, Catalonia Institute for Energy Research / Universitat Rovira i Virgili, Bioenergy and Biofuels Dpt., SPAIN

Co-authors: E. Clavero, C. Torras, Catalonia Institute for Energy Research, Tarragona, Spain; J. Salvadó, Universitat Rovira i Virgili, Tarragona, Spain

1CO.1.2

MICRO-ALGAE CULTIVATION BY ENRICHED CO₂ FROM DIESEL TRI-GENERATION SYSTEM WITH SELECTIVE CCS AND DIRECT BIOFUEL CONVERSION FROM WET MICRO-ALGAE BY SUPER-HEATED METHANOL VAPOR METHOD

Koji YAMANE, University of Shiga Prefecture, Mechanical Systems Engineering Dpt., JAPAN

Co-authors: K. Kawasaki, S. Iwai, University of Shiga Prefecture, Hikone, Japan

1CO.1.3

Invited

1CO.1.4

MICROALGAE FRACTIONATION INTO BIOPRODUCTS BY STEAM EXPLOSION AND MEMBRANE FILTRATION

Joan SALVADÓ, Universitat Rovira i Virgili, Chemical Engineering Dpt., SPAIN

Co-authors: E. Lorente, C. Torras, E. Clavero, N. Descarrega, Catalonia Institute for Energy Research, Tarragona, Spain; M. Haponska, Universitat Rovira i Virgili, Tarragona, Spain

1CO.1.5

NUTRIENT USAGE IN MICROALGAL BIOTECHNOLOGY: UPDATES ON A GROWING PROBLEM AND STRATEGIES FOR EFFECTIVE USAGE

Joshua MAYERS, Chalmers University of Technology, Biology and Biological Engineering Dpt., SWEDEN

Co-authors: E. Albers, Chalmers University of Technology, Goteborg, Sweden; K.J. Flynn, Swansea University, United Kingdom

08:30 - 10:00

ORAL SESSION 4CO.2

Land Use Change and Deforestation

ROOM: K2

CHAIRPERSONS:

Gustaf EGNELL, Swedish University of Agricultural Sciences, SWEDEN

Ruben GUISSON, VITO - Flemish Institute Technological Research, BELGIUM

4CO.2.1

A HISTORICAL PERSPECTIVE ON BIOENERGY ENVIRONMENTAL SUSTAINABILITY IN EU POLICIES

Luisa MARELLI, European Commission, JRC, ITALY

Co-authors: J. Giuntoli, European Commission, JRC, Petten, The Netherlands; R. Edwards, European Commission, JRC, Ispra, Italy

4CO.2.2

BIOMASS, LAND-USE CHANGES AND ENVIRONMENTAL IMPACTS: A QUALITATIVE AND QUANTITATIVE REVIEW OF SCIENTIFIC LITERATURE

Benoit GABRIELLE, AgroParisTech - INRA, Functional Ecology of Agro-Ecosystems Dpt., FRANCE

Co-authors: A. Bispo, ADEME, Angers, France; M. El Akkari, O. Réchauchère, INRA, Paris, France; D. Makowski, L. Bamière, A. Barbottin, INRA, Thiverval-Grignon, France; V. Bellassen, S. Gaba, INRA, Dijon, France; C. Bessou, P. Dumas, CIRAD, Montpellier, France; J. Wohlfahrt, INRA, Mirecourt, France

4CO.2.3

BENEFITS OF A CAUSAL ANALYSIS FRAMEWORK TO INFORM LAND-USE CHANGE MODELING IN THE CONTEXT OF BIOENERGY

Hans LANGEVELD, Biomass Research, THE NETHERLANDS

Co-authors: R.A. Efroymson, K.L. Kline, V.H. Dale, N. Singh, Oak Ridge National Laboratory, Oak Ridge, Usa; A. Angelsen, Norwegian University of Life Sciences, As, Norway; P.H. Verburg, VU University Amsterdam, Amsterdam, The Netherlands; J.W.A. Langeveld, Biomass Research, Wageningen, The Netherlands

4CO.2.4

BRAZILIAN SUGARCANE EXPANSION AND DEFORESTATION

Manoel Regis LEAL, CTBE - Brazilian Bioethanol Science and Technology Laboratory, Industry Division, BRAZIL

Co-authors: D.G. Duft, T.A.D. Hernandez, CTBE, Campinas, Brazil

4CO.2.5

ASPECTS OF THE FOREST-WOOD SECTOR AND BIOENERGY PRODUCTION

Birger KERCKOW, FNR - Agency for Renewable Resources, European and International Cooperation, GERMANY

08:30 - 10:00

ORAL SESSION 3CO.3

Biomass to Energy and other Valuable Components

ROOM: K1

CHAIRPERSONS:

Xiaoling MIAO, Shanghai Jiao Tong University, P.R. CHINA

Arturo SANCHEZ, Centro de Investigacion y de Estudios Avanzados del IPN, Bioenergy Futures Laboratory, MEXICO

3CO.3.1

HYDROGEN PRODUCTION FROM BIOMASS VIA GASIFICATION PROCESS: THE RESULTS OF THE EU UNIFHY PROJECT

Pier Ugo FOSCOLO, University of L'Aquila, Industrial Engineering Dpt., ITALY
Co-authors: D. Barisano, G. Braccio, ENEA, Rotondella, Italy; E. Bocci, Guglielmo Marconi University, Rome, Italy; S. Heidenreich, Filtersystems GmbH Werk Schumacher, Crailsheim, Germany; M. Rep, HYGEAR, Arnhem, The Netherlands; C. Courson, University of Strasbourg, France; J. Cornish, EPC, Herten, Germany

3CO.3.2

CO HYDROGENATION TO ALCOHOLS OVER SBA-15 SUPPORTED FE, CO, AND CU: BINARY VS TERNARY CATALYSTS

Jordi PLANA-PALLEJÀ, Universitat Rovira i Virgili, Chemical Engineering Dpt., SPAIN
Co-authors: D. Montané, Universitat Rovira i Virgili, Tarragona, Spain; C. Berruero, S. Abelló, Catalonia Institute of Energy Research (IREC), Tarragona, Spain;

3CO.3.3

CHARS FROM THERMO-CHEMICAL CONVERSION TECHNOLOGIES: PHYSICAL AND CHEMICAL CHARACTERISTICS AND THEIR BEHAVIOR IN SOILS

Daniele BASSO, HBI, ITALY
Co-authors: D. Wuest, A. Kruse, University of Hohenheim, Stuttgart, Germany

3CO.3.4

IMPROVEMENT OF THE AGRONOMIC PROPERTIES OF POOR SOILS AFTER AMENDMENT OF BIOCHAR PRODUCED BY THE PYROLYSIS OF THICK FRACTION PIG MANURE

Jens MAGGEN, Hasselt University, Applied and Analytical Chemistry Dpt., BELGIUM
Co-authors: R. Carleer, J. Yperman, S. Schreurs, Hasselt University, Diepenbeek, Belgium

3CO.3.5

SUSTAINABLE REDESIGN OF BPA-BASED POLYMERS VIA STRATEGIC ASSEMBLIES OF WOOD-DERIVED BUILDING BLOCKS

Joseph STANZIONE, Rowan University, Chemical Engineering Dpt., USA
Co-authors: G. Palmese, Drexel University, Philadelphia, USA; J. Sadler, J. La Scala, Army Research Laboratory, Aberdeen Proving Ground, USA

08:30 - 10:00

ORAL SESSION 5CO.4

Bioenergy and Grid Balancing

ROOM: K23+K24

CHAIRPERSONS:

Daniela THRÄN, DBFZ-German Biomass Research Centre, GERMANY

Antti ARASTO, VTT Technical Research Centre of Finland, FINLAND

5CO.4.1

DEMAND-DRIVEN BIOGAS PRODUCTION IN FULL-SCALE BY MODEL PREDICTIVE FEED CONTROL

Eric MAUKY, DBFZ-German Biomass Research Centre, Biochemical Conversion Dpt., GERMANY

Co-authors: S. Weinrich, J. Liebetrau, M. Nelles, DBFZ-German Biomass Research Centre, Leipzig, Germany; H.F. Jacobi, Hessian State Laboratory, Gießen, Germany

5CO.4.2

GIS-BASED OPTIMIZATION MODEL FOR THE SMART DESIGN OF A NATIONWIDE BIO-SNG PRODUCTION SYSTEM FOR IRELAND

Alessandro SINGLITICO, National University of Ireland, College of Engineering and Informatics, IRELAND

Co-authors: I. Kilgallon, Gas Networks Ireland, Cork, Ireland; J. Goggins, R.F.D. Monaghan, National University of Ireland, Galway, Ireland

5CO.4.3

CONCEPT AND PRACTICAL IMPLEMENTATION OF INTEGRATED FLEXIBLE BIOGAS-INTERMITTENT RE-BATTERY STORAGE FOR RELIABLE AND SECURE POWER SUPPLY TO MEET ACTUAL LOAD DEMAND AT OPTIMAL COSTS

Dodiek Ika CANDRA, Hochschule Aschaffenburg, Engineering Science Dpt., GERMANY

Co-authors: K. Hartmann, M. Nelles, University of Applied Sciences Aschaffenburg, Germany

5CO.4.4

SHOWCASE BIOCAT: BALANCING THE ELECTRICITY GRID WITH THE GAS GRID VIA BIOLOGICAL METHANATION

Doris HAFENBRADL, Electrochaea, GERMANY

5CO.4.5

THE POTENTIAL ROLE OF WASTE BIOMASS IN THE FUTURE URBAN ELECTRICITY SYSTEM

Yu JIANG, Wageningen University, Biobased Chemistry and Technology Dpt., THE NETHERLANDS

Co-authors: E van der Werf, E.C van Ierland, K.J Keesman, Wageningen University & Research, Wageningen, The Netherlands

08:30 - 10:00

VISUAL PRESENTATIONS 3CV.1

Oil-based Biofuels. Biogas Upgrading Systems. Feedstock and Processes for Bioalcohol Production

ROOM: Poster Area

CHAIRPERSONS:

Evert Jan HENGEVELD, Hanze University of Applied Sciences, THE NETHERLANDS

Jan LINDSTEDT, Lindab Sweden, SWEDEN

Dimitrios SIDIRAS, University of Piraeus, GREECE

3CV.1.5

BLENDS OF PYROLYSIS OIL AND CRUDE GLYCERIN

Lucas COSTA, UNICAMP, Energy Dpt., BRAZIL

Co-author: C.G. SÁNCHEZ, UNICAMP, CAMPINAS, Brazil

3CV.1.7

SUBCRITICAL THERMAL LIQUEFACTION OF PROCESS REJECTS OF A WASTEPAPER-BASED PAPER MILL USING WASTE SOYBEAN OIL AND ETHANOL AS SOLVENTS FOR BIO-FUEL PRODUCTION

Je-Lueng SHIE, National I-Lan University, Environmental Engineering Dpt., TAIWAN

3CV.1.10

COPPER FERRITE SPINEL OXIDE CATALYSTS FOR METHANOLYSIS OF PALM OIL

Kajornsak FAUNGNAWAKIJ, National Science and Technology Development Agency, National Nanotechnology Center, THAILAND

Co-authors: C. Luadthong, P. Khemthong, National Nanotechnology Center, Pathuntani, Thailand

3CV.1.14

AN ALTERNATIVE PROCESS FOR CO₂ SEPARATION BY IL BASED CHEMICAL ABSORPTION

Markus ROSCHITZ, DVGW Research Centre, GERMANY

Co-authors: F. Ortloff, F. Graf, DVGW Research Center at EBI, Karlsruhe, Germany; T. Kolb, KIT, Engler-Bunte-Institute, Karlsruhe, Germany

3CV.1.16

BIOGAS UPGRADING BY CHEMICAL ABSORPTION WITH AMINO ACID SALT SOLUTIONS

Marc Oliver SCHMID, University Stuttgart, Institute of Combustion an Power Plant Technology, Fuels and Flue Gas Cleaning Dpt., GERMANY

Co-authors: B. Klein, G. Scheffknecht, Institute of Combustion and Power Plant Technology, University of Stuttgart, Germany

3CV.1.18

MODEL-BASED TECHNO-ECONOMIC ASSESSMENT OF PARTIALLY UPGRADED BIOGAS AND THE DECENTRALIZED UTILIZATION FOR MOBILITY IN AGRICULTURE

Abdessamad SAIDI, Technische Hochschule Ingolstadt, Institute of New Energy Systems, GERMANY

Co-authors: M. Beringer, U. Männl, S. Innerhofer, Regineering GmbH, Denkendorf, Germany; M. Sonnleitner, M. Goldbrunner, Institute of New Energy Systems, Technische Hochschule Ingolstadt, Ingolstadt, Germany

3CV.1.19

IMPROVEMENTS IN THE USE OF GREEN SULPHUR BACTERIA FOR HYDROGEN SULPHIDE REMOVAL

Luigia LONA, ENEA, DTE Dpt., ITALY

Co-authors: V. Pignatelli, F. Girardi, A. Aliboni, N. Corsaro, C. Felici, E. De Luca, ENEA, Roma, Italy; E. Petrucci, Università La Sapienza, Roma, Italy

3CV.1.21

BIOMETHANE UTILISATION OPTIONS: FINANCIAL AND ENVIRONMENTAL ANALYSIS

Alexander LAMOND, University of Nottingham, Faculty of Engineering, UNITED KINGDOM

Co-authors: J. Mckechnie, G.S. Walker, University of Nottingham, United Kingdom

3CV.1.22

BIOGAS BLENDING INTO THE GAS DISTRIBUTION GRID: THE CASE STUDY OF A SMALL MUNICIPALITY.

Marco CAVANA, Politecnico di Torino, Energy Dpt., ITALY

Co-authors: A. Lanzini, P. Leone, Politecnico di Torino, Italy

3CV.1.25

BREWER'S SPENT GRAIN VALORIZATION USING PHOSPHORIC ACID PRETREATMENT FOR SECOND GENERATION BIOETHANOL PRODUCTION

Inmaculada ROMERO, University of Jaen, Chemical, Environmental and Material Engineering Dpt., SPAIN

Co-authors: E. Ruiz, C. Cara, V. Lorite, J.A. Rojas, J.C. López-Linares, E. Castro, University of Jaén, Spain; S. Mussatto, Technical University of Denmark, Lyngby, Denmark

3CV.1.30

EFFECT OF THE HYDROLYSIS PRE-TREATMENT OF CACHAZA FOR BIOETHANOL PRODUCTION

Maria GÓMEZ, Universidad de La Sabana, Chemical Engineering Dpt., COLOMBIA

Co-authors: M. Cobo, N. Sanchez, R. Ruiz, A. Plazas, J. Vasquez, Universidad de La Sabana, Bogota, COLOMBIA

3CV.1.32

USING PADDLE DRYER APPARATUS TO PERFORM ENZYMATIC HYDROLYSIS ON STEAM PRETREATED WHEAT STRAW AT HIGH SOLIDS LOADING

Francesco ZIMBARDI, ENEA Research Centre, Energy Technologies Department, ITALY

Co-authors: V. Viola, G. Arcieri, N. Cerone, M. Carnevale, V. Valerio, ENEA, Rotondella, ITALY

3CV.1.34

ALKALINE PEROXIDE OXIDATION PRETREATMENT OF CORN COB AND RICE HUSKS FOR BIOCONVERSION INTO BIO-COMMODITIES: ENZYMATIC CONVERTIBILITY OF PRETREATED CORN COB TO REDUCING SUGAR

Augustine O. AYENI, University of the Witwatersrand, Chemical Engineering Dpt., SOUTH AFRICA

Co-authors: A. Awosusi, M. Daramola, University of Witwatersrand, Johannesburg, South Africa

3CV.1.36

BOTTLENECKS IN LIGNOCELLULOSIC ETHANOL PRODUCTION: XYLOSE FERMENTATION AND CELL PROPAGATION

Marlous VAN DIJK, Chalmers University of Technology, Industrial Biotechnology Dpt., SWEDEN

Co-author: L. Olsson, Chalmers University of Technology, Göteborg, Sweden

3CV.1.37

STUDY ON THE REQUIREMENT OF NITROGEN SOURCES BY SCHEFFERSOMYCES STIPITIS NRRL Y-7124 TO PRODUCE ETHANOL FROM XYLOSE BASED-MEDIA

Solange MUSSATTO, Technical University of Denmark, Novo Nordisk Foundation Center for Biosustainability, DENMARK

Co-authors: L.M. Carneiro, Department of Chemical Engineering, Engineering College of Lorena, University of São Paulo, Lorena / SP, Brazil; I.C. Roberto, Department of Biotechnology, Engineering College of Lorena, University of São Paulo, Lorena / SP, Brazil

3CV.1.39

EVALUATION OF A PILOT-SCALE CONTINUOUS TUBULAR REACTOR FOR PRETREATMENT OF AGAVE BAGASSE.

Arturo SANCHEZ, Centro de Investigacion y de Estudios Avanzados del IPN, Bioenergy Futures Laboratory, MEXICO

Co-authors: L. Amaya-Delgado, J. Nova, D. Sandoval, CIATEJ, Zapopan, Mexico; A. Sánchez, F. Rodríguez, CINVESTAV-Gdl, Zapopan, Mexico

3CV.1.42

BUTANOL PRODUCTION FROM VOLATILE FEEDSTOCKS. DEVELOPMENT OF AN OPTIMIZED BIOPROCESS

Florian GATTERMAYR, Kompetenzzentrum Holz, WCB Dpt., AUSTRIA

Co-authors: V. Leitner, Kompetenzzentrum Holz GmbH, Linz, Austria; C. Herwig, Technical University Vienna, Wien, Austria

3CV.1.51

LIGNOCELLULOSE - DEGRADATION BY THERMOPHILIC BACTERIA ISOLATED FROM HOT SPRING IN SOUTHERN THAILAND

Apinya SINGKHALA, Thaksin University, Biology Dpt., THAILAND

Co-authors: C. Niyasom, S. O - Thong, Thaksin University, Phatthalung, Thailand; N. Kare- Birkeland, University of Bergen, Bergen, Norway

3CV.1.52

SIMULATION OF FLOW AND DESIGN OF AGITATED LARGE-VOLUME BIOREACTORS

Tomas JIROUT, Czech Technical University in Prague, Process Engineering Dpt., CZECH REPUBLIC

Co-author: O. Potociar, Czech Technical University in Prague, Faculty of Mechanical Engineering, Department of Process Engineering, Prague, Czech Republic

3CV.1.54

NATURALLY DERIVED HETEROGENEOUS CATALYST FOR ETHYL ESTERS SYNTHESIS

Jorge Mario MARCHETTI, Norwegian University of Life Sciences, Mathematical Science and Technology Dpt., NORWAY

Co-authors: M.R. Avhad, Norwegian University of Life Sciences, Ås, Norway; M. Sánchez, A. Bouaid, M. Martínez, J. Aracil, Complutense University, Madrid, Spain

3CV.1.55

MOLECULAR INSIGHT INTO ARYL O-DEMETHYLATION BY A NOVEL DEMETHYLASE OFFERS A NEW TOOL FOR LIGNIN VALORIZATION

Amanda KOHLER, Joint BioEnergy Institute, USA

Co-authors: M.J.L. Mills, K.L. Sale, Joint BioEnergy Institute, Sandia National Laboratories, Emeryville, USA; P.D. Adams, B.A. Simmons, Joint BioEnergy Institute, Lawrence Berkeley National Laboratory, UC Berkeley, Emeryville, USA

3CV.1.57

IMPROVE ECONOMIC COMPETITIVENESS OF PALM OIL BASED BIODIESEL IN INDONESIA THROUGH BIOREFINERY PATHWAY

Fumi HARAHA, KTH Royal Institute of Technology, Energy Technology Dpt., SWEDEN

Co-authors: S. Silveira, D. Khatiwada, Division of Energy and Climate Studies, KTH Royal Institute of Technology, Stockholm, Sweden

08:30 - 15:00

PARALLEL EVENT

BIOENERGY - FROM RESEARCH TO MARKET DEPLOYMENT IN A EUROPEAN CONTEXT

10:00 - 10:15

BREAK

10:15 - 11:00

PLENARY SESSION 4CP.1

Biomass Strategies and Policies. Mobilization and Environmental Impact

ROOM: K1

CHAIRPERSON:

Tomas LUNDMARK, Swedish University of Agricultural Sciences, SWEDEN

4CP.1.1

Keynote presentation

MAPPING INDIRECT LAND USE CHANGE AND THE EFFECT OF ILUC MITIGATION MEASURES

Floor VAN DER HILST, Utrecht University, Energy & Resources, Copernicus Institute, THE NETHERLANDS

Co-authors: J.A. Versteegen, University of Münster, Münster, Germany; G. Woltjer, E.M.W. Smeets, Wageningen Economic Research, The Netherlands; A.P.C. Faaij, University of Groningen, The Netherlands

4CP.1.2

POLICY LESSONS TO MOBILIZE SUSTAINABLE BIOMASS RESOURCES FOR THE BIOBASED ECONOMY: CONCLUSIONS FROM THE PROJECTS BIOMASS POLICIES, S2BIOM AND BIOTRADE2020+

Luc PELKMANS, VITO - Flemish Institute Technological Research, Separation & Conversion Processes Dpt., BELGIUM

Co-authors: C. Panoutsou, Imperial College, United Kingdom; A. Uslu, ECN, Amsterdam, The Netherlands; E. Alakangas, VTT, Jyväskylä, Finland; L. Wenzelides, FNR, Gölzow, Germany; D. Sanchez Gonzales, CENER, Sarriguren, Spain; R. Guisson, VITO NV, Mol, Belgium

CONFERENCE PROGRAMME

WEDNESDAY, 14 JUNE 2017

11:00 - 11:45

PLENARY SESSION 5CP.2

Integrated Bioenergy Projects

ROOM: K1

CHAIRPERSONS:

Jeffrey SKEER, IRENA-International Renewable Energy Agency, GERMANY

5CP.2.1

INTEGRATED BIOENERGY HYBRIDS - FLEXIBILITY FOR A LOW-EMISSION ENERGY SYSTEM

Elina HAKKARAINEN, VTT Technical Research Centre of Finland, Renewable Energy Processes Dpt., FINLAND

Co-author: I. Hannula, VTT Technical Research Centre of Finland Ltd, Espoo, Finland

5CP.2.2

INTEGRATING POWER -TO -GAS INTO SUGARCANE ETHANOL INDUSTRY. A MOBILITY ORIENTED OPTIMIZATION

Alexandre DE BARROS GALLO, University of São Paulo, Institute of Energy and Environment, BRAZIL

Co-authors: A.B. Gallo, M.M. Santos, H.K.M. Costa, E. Moutinho dos Santos, M.T.W. Fagá, USP - Institute of Energy and Environment, São Paulo, Brazil

11:45 - 12:30

PLENARY SESSION ICP.3

Industrial Deployment of New Biomass Conversion Technology

ROOM: K1

CHAIRPERSON:

Michael PERSSON, Head of Secretariat of the Danish Bioenergy Association, DENMARK

ICP.3.1

GOBIGAS - FIRST FULL-SCALE DEMONSTRATION OF BIOMETHANE FROM FOREST RESIDUES

Martin SEEMANN, Chalmers University of Technology, Energy Technology Dpt., SWEDEN

Co-authors: E. Zinn, I. Gunnarsson, Göteborg Energi, Göteborg, Sweden

ICP.3.2

NEW INDUSTRIAL DEVELOPMENT IN FLUIDISED BED COMBUSTION OF WASTE AND BIOMASS

Lars BIERLEIN, E.ON, SWEDEN

Co-author: B. Fredriksson Moeller, E.ON Gasification Development, Malmö, Sweden

12:30 - 13:30

LUNCH

CONFERENCE PROGRAMME
WEDNESDAY, 14 JUNE 2017

WEDNESDAY
AM

13:30 - 15:00

ORAL SESSION 1CO.5

Biomass Crops for Marginal Land

ROOM: K21

CHAIRPERSONS:

Ana Luisa FERNANDO, Universidade Nova de Lisboa, PORTUGAL

Vance OWENS, South Dakota State University, USA

1CO.5.1

INFLUENCE OF ENDOPHYTIC ROOT BACTERIA ON THE GROWTH, CADMIUM TOLERANCE

Qingsheng CAI, Nanjing Agricultural University, College of Life Sciences, P.R. CHINA

Co-authors: S. Afzal, N. Begum, H. Zhao, Z. Fang, L. Lou, Nanjing Agricultural University, P.R. China

1CO.5.2

FROM IRRIGATED TO RAINFED AGRICULTURE IN A MEDITERRANEAN ENVIRONMENT: THE SHIFT IN BIOMASS YIELD OF THE ARUNDO ENERGY CROP OVER THE SEASONS

Maria Dolores CURT, Universidad Politecnica de Madrid, Agricultural Production Dpt., SPAIN

Co-authors: M. Sanz, J. Sanchez, P.L. Aguado, J. Fernandez, Universidad Politecnica de Madrid, Madrid, Spain; P.V. Mauri, IMIDRA, Madrid, Spain; A. Plaza, J. Cano-Ruiz, IMIDRA, Alcala de Henares, Spain

1CO.5.3

PURE AND MIXED PERENNIAL BIOMASS CROPS FOR A CONSTRAINT MARGINAL LAND IN NORTH-CENTRAL SPAIN (A 6-YEAR STUDY)

Carlos Sixto CIRIA RAMOS, CIEMAT, Biomasa Dpt., SPAIN

Co-authors: J.E. Carrasco, J. Perez, E. Maletta, R. Barro, P. Ciria, CEDER-CIEMAT, LUBIA-SORIA, Spain

1CO.5.4

LONG-TERM YIELDS OF PERENNIAL GRASSES IN MEDITERRANEAN REGION

Efthymia ALEXOPOULOU, Center for Renewable Energy Sources, Biomass Dpt., GREECE

Co-authors: M. Christou, I. Papamichael, K. Tsiotas, CRES, Athens, Greece

1CO.5.5

FOSTERING SUSTAINABLE FEEDSTOCK PRODUCTION FOR ADVANCED BIOFUELS ON UNDERUTILISED LAND IN EUROPE

Rita MERGNER, WIP, GERMANY

Co-authors: R. Janssen, D. Rutz, WIP, Munich, Germany

13:30 - 15:00

ORAL SESSION 4CO.6

Strategies and Policies for Biomass Supply and Demand in Europe

ROOM: K2

CHAIRPERSONS:

Luc PELKMANS, VITO - Flemish Institute Technological Research, BELGIUM

Mirjam ROEDER, University of Manchester, UNITED KINGDOM

4CO.6.1

BIOMASS CONSUMPTION SCENARIOS FOR ENERGY AND CHEMICALS IN THE EU AND NEIGHBOURING COUNTRIES UNTIL 2030

Marc LONDO, Energy Research Centre of the Netherlands, Policy Studies Dpt., THE NETHERLANDS

Co-authors: C.M. Kraan, J. van Stralen, A. Uslu, Energy Research Centre of the Netherlands, Amsterdam, The Netherlands

4CO.6.2

COMPARISON OF EFFECTIVENESS OF SUPPORT POLICIES FOR SUSTAINABLE DEVELOPMENT OF THE BIOENERGY SECTOR: BIOENERGY DEVELOPMENT IN THE UK & NORDIC COUNTRIES

Patricia THORNLEY, SUPERGEN Bioenergy Hub, UNITED KINGDOM

Co-authors: A. Welfle, University of Manchester, United Kingdom; S. Cross, S. Syri, Aalto University, Espoo, Finland; M. Mikaelsson, UK Foreign & Commonwealth Office, Stockholm, Sweden

4CO.6.3

MAPPING OF THE DANISH BIOENERGY CLUSTER AND ITS IMPACT ON JOBS AND EXPORTS

Michael PERSSON, Head of Secretariat of the Danish Bioenergy Association, DENMARK

4CO.6.4

EVALUATION OF GOVERNMENTAL POLICIES TO STIMULATE BIOFUELS USE IN AVIATION

Anouk VAN GRINSVEN, CE Delft Consultancy, Fuels and Cities Dpt., THE NETHERLANDS

Co-authors: E. Smeets, H. Bartelings, Wageningen Economic Research, The Hague, The Netherlands; A. Van Velzen, TAKS, Utrecht, The Netherlands; J. Faber, CE Delft, The Netherlands

4CO.6.5

CAN LIGNOCELLULOSIC BIOMASS RECONCILE AGRICULTURAL PRODUCTIVITY, THE BIOECONOMY AND CLIMATE CHANGE MITIGATION IN THE EU?

Hyung Sik CHOI, University of Hohenheim, Agricultural and Food Policy Group, GERMANY

Co-authors: H. Grethe, S. Entenmann, Humboldt-University of Berlin, Berlin, Germany

13:30 - 15:00

ORAL SESSION 3CO.7

Chemicals and Materials from Biomass

ROOM: K1

CHAIRPERSONS:

Solange MUSSATTO, Technical University of Denmark, DENMARK

Tanja BARTH, University of Bergen, NORWAY

3CO.7.1

CHEMICALS FROM BIOMASS: CHEMISTRY, SYNTHESIS, ENGINEERING AND SUSTAINABILITY ANALYSES

Mobolaji SHEMFE, University of Surrey, Centre for Environment and Sustainability, UNITED KINGDOM

Co-author: J. Sadhukhan, University of Surrey, Guildford, United Kingdom

3CO.7.2

RECYCLABLE GREEN PROCESS FOR BIO-ADIPIC ACID

Young Gyu KIM, Seoul National University, School of Chemical and Biological Engineering, KOREA

Co-authors: N. Shin, S. Kwon, Y. Lee, N. Kim, H.M. Yang, Seoul National University, Korea; C.H. Hong, Seoul National University, Gyeonggi-do, Korea

3CO.7.3

POLYURETHANE FOAMS PRODUCED FROM PYROLYSIS OIL: PRODUCTION AND POSSIBLE APPLICATION

Tim SCHULZKE, Fraunhofer-Institut UMSICHT, Biorefinery and Biofuels Dpt., GERMANY

Co-authors: A. Lakovleva, S. Zabelkin, A. Grachev, Kazan National Research Technological University, Kazan, Russian Federation; Q. Cao, Ruhr-University, Bochum, Germany; S. Conrad, Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT, Oberhausen, Germany

3CO.7.4

POLYMER NANOCOMPOSITES BASED ON LIGNIN NANOPARTICLES: DEVELOPMENT, CHARACTERIZATION AND POTENTIAL APPLICATIONS

Maria Nelly GARCIA GONZALEZ, Polytechnic of Milan, Chemistry, Materials and Chemical Engineering Dpt., ITALY

Co-authors: G. Griffini, S. Turri, M. Levi, Polytechnic of Milan, Italy

3CO.7.5

THE SYNTHESIS OF BIO-SOURCED EPOXY RESINS USING DEPOLYMERISED LIGNIN STREAMS

Elias FEGHALI, SCION/VITO, NEW ZEALAND

Co-authors: D. van de Pas, K. Torr, Scion, Rotorua, New Zealand; K. Servaes, Vito, Mol, Belgium

13:30 - 15:00

ORAL SESSION ICO.8

Thermochemical Biomass Conversion Processes

ROOM: K23+K24

CHAIRPERSONS:

Björn FREDRIKSSON MÖLLER, E.ON Gasification Development, SWEDEN
Bert VAN DE BELD, BTG Biomass Technology Group, THE NETHERLANDS

ICO.8.1

HIGH QUALITY FUEL BY STEAM EXPLOSION

Tero JORONEN, Valmet, Bioenergy R&D Dpt., FINLAND

Co-authors: P. Björklung, Valmet, Sundvall, Sweden; M. Bolhär-Nordenkampf, Valmet, Vienna, Austria

ICO.8.2

CONCEPT FOR UTILIZATION OF WASTE FUELS IN A SMALL SCALE UPDRAFT GASIFIER SYSTEM

Moritz HUSMANN, Highterm Research, AUSTRIA

Co-authors: C. Zuber, H. Brugger, G. Binder, Highterm Research, Graz, Austria; S. Siddiqui, Entrade Energiesysteme, Düsseldorf, Germany

ICO.8.3

BIOMASS CHP SYSTEMS IN COMMERCIAL AGRICULTURAL PROCESSING

Matthew SUMMERS, West Biofuels, USA

Co-authors: C. Liao, B. Bruning, M. Hart, West Biofuels, Woodland, CA, Usa; G. Faussonne, INSER, Torino, Italy

ICO.8.4

EXPERIENCES WITH WOODROLL - VERSATILE GREEN ENERGY GAS PRODUCTION

Rolf LJUNGGREN, Cleantech Inn, Gasification Dpt., SWEDEN

ICO.8.5

COMMERCIAL GASIFICATION OF WASTE PAPER RESIDUES - FEEDBACK ON THE COMMISSIONING OF A 12MW PLANT

Timothée NOCQUET, Leroux & Lotz Technologies, FRANCE

Co-authors: B. Cluet, C. Marty, M. Al Haddad, Leroux & Lotz Technologies, Grenoble, France

13:30 - 15:00

VISUAL PRESENTATIONS 3CV.2

Thermally Treated Solid Biofuels

ROOM: Poster Area

CHAIRPERSONS:

Jaap KIEL, Energy Research Centre of the Netherlands, THE NETHERLANDS
Kay SCHAUBACH, DBFZ-German Biomass Research Centre, GERMANY

3CV.2.2

VALORISATION OF EARLY HARVESTED MISCANTHUS FOR UNITISATION IN COMBUSTION VIA HYDROTHERMAL CARBONISATION

Aidan SMITH, University of Leeds, Energy Research Institute, UNITED KINGDOM

Co-authors: I. Shield, Rothamstead Research, Harpenden, United Kingdom; A.B. Ross, University of Leeds, United Kingdom

3CV.2.3

A LAYERED PARTICLE APPROACH TO MODEL THE CONVERSION OF THERMALLY THICK PARTICLES

Kathrin WEBER, Norwegian University of Science and Technology, Energy and Process Engineering Dpt., NORWAY

Co-authors: T. Li, T. Løvås, Norwegian University of Science and Technology, Trondheim, Norway; C. Perlman, LOGE AB, Lund, Sweden; F. Mauss, Brandenburg University of Technology, Cottbus, Germany

3CV.2.4

COMPARISON OF TWO PROCESSES TO DECREASE CO₂ REACTIVITY OF BIOCHAR FOR METALLURGICAL INDUSTRY

Gerrit SURUP, University of Agder, Engineering Sciences Dpt., NORWAY

Co-authors: H.K. Nielsen, T. Vehus, University of Agder, Grimstad, Norway; P.A. Eidem, Eramet Norway AS, Trondheim, Norway

3CV.2.5

EXPERIMENTAL INVESTIGATION OF THERMAL CONDUCTIVITY OF RAW AND TORREFIED BIOMASS FUELS

Rory MONAGHAN, National University of Ireland Galway, Mechanical Engineering Dpt., IRELAND

Co-authors: C.P. O'Hagan, S. Layden, J. Goggins, NUI Galway, Galway, Ireland; P. Layden, R. Johnson, Arigna Fuels, Roscommon, Ireland

3CV.2.6

BIOMASS PYROLYSIS WITH BIO-OIL RECYCLE TO INCREASE ENERGY RECOVERY IN BIOCHAR

Aekjuthon PHOUNGLAMCHEIK, Luleå University of Technology, Engineering Sciences and Mathematics Dpt., SWEDEN

Co-authors: K. Umeke, T. Wretborn, Energy Engineering, Luleå University of Technology, Luleå, Sweden

3CV.2.8

ASSESSING THE HEAT AND ENERGY BALANCES OF HYDROCHAR PRODUCTION VIA HYDROTHERMAL CARBONIZATION OF OLIVE POMACE

Stephane BOSTYN, CNRS - Université d'Orléans, ICARE Dpt., FRANCE

Co-authors: A. Missaoui, V. Belandria, B. Sarh, I. Gokalp, CNRS-ICARE UPR3021, Orléans, France

3CV.2.9

UPGRADING OF PYROLYSIS CHARS IN SYNGAS PURIFICATION: CHARACTERIZATION AND IMPLEMENTATION IN A FIXED BED COLUMN

Audrey VILLOT, Ecole des Mines de Nantes, FRANCE

Co-authors: J. Pena, C. Gerente, Ecole des mines de Nantes, Nantes, France

3CV.2.10

ENERGY POTENTIAL FROM BUCKWHEAT HUSKS THROUGH A THERMOCHEMICAL AND BIOCHEMICAL APPROACHES

Audrey VILLOT, Ecole des Mines de Nantes, FRANCE

Co-authors: M. Elsayed, C. Gerente, Y. Andres, Ecole des Mines de Nantes, France; J. Pena, Ecole des Mines de Nantes / ADEME, Nantes / Angers, France

3CV.2.11

A COMPLETE 1-D MODEL FOR BIOMASS TORREFACTION PROCESS AND RESULTS VALIDATIONS REFERRED TO AN EXPERIMENTAL SCALE REACTOR

Marco BRIGHENTI, University of Trento, Civil, Environmental and Mechanical Engineering Dpt., ITALY

Co-authors: M. Grigiante, University of Trento, Trento, Italy; D. Antolini, Free University of Bozen-Bolzano, Bozen, Italy

3CV.2.13

PRODUCTION OF HIGH PURITY LIGNIN FROM RAPESEED MEAL USING A MICROWAVE-ASSISTED HYDROTHERMAL PROCESS

Javier REMON NUÑEZ, University of York, Chemistry Dpt., UNITED KINGDOM
Co-authors: J. Remon, L. Zhou, J. Fan, D. Macquarrie, V. Budarin, J. Clark, University of York, United Kingdom

3CV.2.14

PYROLYSIS KINETICS OF WET-TORREFIED FOREST RESIDUES

Øyvind SKREIBERG, SINTEF Energy Research, Thermal Energy Dpt., NORWAY
Co-author: Q.V. Bach, NTNU, Trondheim, Norway

3CV.2.17

GASIFICATION BEHAVIOURS OF DIFFERENT BIOMASS CHARCOALS UNDER CO₂ ATMOSPHERE

Liang WANG, SINTEF Energy Research, Thermal Energy Dpt., NORWAY
Co-authors: N. Alsaker, Ø. Skreiberg, SINTEF Energy Research, Trondheim, Norway; T. Buø, R. Birkeland, A. Valderhaug, Elkem, Kristiansand, Norway; B. Hovd, SINTEF Materials and Chemistry, Trondheim, Norway

3CV.2.18

CO₂ GASIFICATION REACTIVITY OF BIOCARBON PRODUCED AT DIFFERENT CONDITIONS

Liang WANG, SINTEF Energy Research, Thermal Energy Dpt., NORWAY
Co-authors: P. Maziarka, T. Løvås, Norwegian University of Science and Technology, Trondheim, Norway; Ø. Skreiberg, SINTEF Energy Research, Trondheim, Norway; M. Wadzyk, AGH University of Science and Technology, Krakow, Poland

3CV.2.23

SUGARCANE STRAW UPGRADING BY WATER WASHING AND ROASTING FOR ITS USE AS A SOLID BIOFUEL

Estela ASSUREIRA, Pontificia Universidad Católica del Perú, Engineering Dpt., PERU
Co-author: M. Assureira, Pontificia Universidad Católica del Perú, Lima, Peru

3CV.2.25

SMALL SCALE TORREFACTION OF LOCAL BIOMASS RESIDUES. TECHNICAL AND ECONOMIC ASSESSMENT

Jean-Bernard MICHEL, Univ. of Applied Sciences and Arts Western Switzerland, Industrial Bioenergy Systems, SWITZERLAND
Co-authors: M. McCormick, University of Applied Sciences and Arts Western Switzerland, Yverdon-les-Bains, Switzerland; C. Tansley, B. Correa, Granit Technology and Engineering, Orbe, Switzerland; M. Schmid, M. Vögeli, Ökozentrum, Langenbruck, Switzerland; J. Ropp, University of Applied Sciences and Arts Western Switzerland, Yverdon-les-Bains, Switzerland

15:00 - 15:15

BREAK

15:15 - 16:45

ORAL SESSION 1CO.9

Advances in Cropping Systems for Sustainable Biomass Production

ROOM: K21

CHAIRPERSONS:

Marisol BERTI, North Dakota State University, USA

Stefano AMADUCCI, Università Cattolica del Sacro Cuore, ITALY

1CO.9.1

COMPARING YIELD AND ENVIRONMENTAL EFFECTS OF POPLAR AND WILLOW PLANTATIONS ON AGRICULTURAL LAND IN SWEDEN

Blas MOLA, University of Eastern Finland, FINLAND

Co-authors: I. Dimitriou, Swedish University of Agricultural Sciences, Uppsala, Sweden; B. Mola-Yudego, UEF/SLU, Joensuu, Finland

1CO.9.2

BIOETHANOL YIELD AND QUALITY COMPONENTS IN CELLULOSIC BIOMASS CROPS GROWN IN THE NORTH CENTRAL USA

Kurt THELEN, Michigan State University, Plant, Soil & Microbial Sciences Dpt., USA

Co-authors: G. Sanford, R. Jackson, University of Wisconsin, Madison, Usa; P. Robertson, Michigan State University, East Lansing, Usa

1CO.9.3

EVALUATING TROPICAL FORAGES GRASSES AS BIOMASS SOURCES TO ENERGY PRODUCTION

Marcelo AYRES CARVALHO, Embrapa - Brazilian Agriculture Research Corporation, Cerrados Research Center, BRAZIL

Co-authors: F. Duarte Fernandes, A. Kardec Braga Ramos, G. Jose Braga, Embrapa, Brasilia, Brazil

1CO.9.4

EVALUATION OF A SUGAR CORN TO BIOENERGY AND BIOPRODUCTS VALUE CHAIN

Tiffany HINBEST, University of Guelph Ridgetown Campus, CANADA

Co-authors: R. Nicol, D. Young, D. Hooker, L. McNea, B.H. Gilroyed, University of Guelph Ridgetown Campus, Ridgetown, Canada; M. Morrisson, L. Reid, Agriculture and Agri-Food Canada, Ottawa, Canada; A. Margaritis, University of Western Ontario, London, Canada

1CO.9.5

CAMELINA & CRAMBE: TWO NON-FOOD OIL CROPS WITH NEW PERSPECTIVES FOR EUROPE

Ioannis ELEFTHERIADIS, Centre for Renewable Energy Sources and Saving, GREECE

Co-authors: E. Alexopoulou, CRES, Pikermi, Greece; F. Zanetti, A. Monti, D. Righini, University of Bologna, Italy; M. Stolarski, M. Krzyzaniak, UWM, Olsztyn, Poland; E.N. Van Loo, WUR, Wageningen, The Netherlands; C. Eynck, J. Grushcow, Linnaeus, Saskatoon, Canada

15:15 - 16:45

ORAL SESSION 4CO.10

Biomass Strategies and Policies - The International Perspective

ROOM: K2

CHAIRPERSONS:

Birger KERCKOW, FNR - Agency for Renewable Resources, GERMANY

Ali SAYIGH, WREC, UNITED KINGDOM

4CO.10.1

INTEGRATIVE APPROACHES FOR BIOENERGY AND THE BIO-ECONOMY: A COMPARATIVE ASSESSMENT IN KENYA, THAILAND AND SWEDEN

Francis X. JOHNSON, Stockholm Environment Institute, KENYA

Co-authors: O. Olsson, I. Virgin, Y. Ran, Stockholm Environment Institute, Stockholm, Sweden;

A. Nyambane, P. Osano, Stockholm Environment Institute, Nairobi, Kenya; M. Fielding, M. Aung, Stockholm Environment Institute, Bangkok, Thailand

4CO.10.2

BIOMASS LANDSCAPE IN MALAYSIA / ASIA

Kester CHIN, MBIC, Biotechnology, MALAYSIA

4CO.10.3

EXPLORING THE RICE STRAW BIOENERGY LANDSCAPE: FARMER PERSPECTIVES FROM INDIA AND THE PHILIPPINES

Angela Mae MINAS, University of Manchester, Tyndall Centre for Climate Change Research, UNITED KINGDOM

Co-authors: M. Röder, P. Thornley, University of Manchester, United Kingdom; A. Samaddar, J. Luis, E. Cabrera, C. Jamieson, International Rice Research Institute, Manila, Philippines

4CO.10.4

PERSPECTIVE FOR THE USE OF BIOMASS IN THE IRON AND STEEL INDUSTRY

Hana MANDOVA, University of Leeds, School of Chemical and Process Engineering, UNITED KINGDOM

Co-authors: W. F. Gale, A. Williams, University of Leeds, United Kingdom; A.L. Heyes, University of Strathclyde, Glasgow, United Kingdom

4CO.10.5

HOUSEHOLD LEVEL FOOD SECURITY IMPACTS OF A 20% BIOFUEL MANDATE IN GHANA

Marnix BRINKMAN, Utrecht University, Copernicus Institute of Sustainable Development, THE NETHERLANDS

Co-authors: J. Levin-Koopman, E. Smeets, Wageningen Economic Research, The Netherlands; I. Maltsoglou, FAO, Rome, Italy; L. Rincon, FAO, Italy; B. Wicke, F. van der Hilst, Utrecht University, The Netherlands; A.P.C. Faaij, University of Groningen, The Netherlands

15:15 - 16:45

ORAL SESSION 3CO.11

Biomass Products from Food Processing

ROOM: K1

CHAIRPERSONS:

Tim SCHULZKE, Fraunhofer-Institut UMSICHT, GERMANY

Tomasz CALIKOWSKI, European Commission, BELGIUM

3CO.11.1

EXPLOITATION OF INULIN-TYPE FRUCTANS (ITF) FROM CHICORY ROOTS FOR THE PRODUCTION OF PLATFORM CHEMICALS

Dominik WUEST, University of Trento, Civil, Environmental and Mechanical Engineering Dpt., GERMANY

Co-authors: D. Wüst, M. Götz, J. Pfenning, A. Kruse, University of Hohenheim, Stuttgart, Germany; L. Fiori, University of Trento, Trento, Italy

3CO.11.2

DEPOLYMERIZATION OF LIGNIN: PRODUCT CHARACTERIZATION AND EVALUATION OF ITS ANTIOXIDANT POTENTIAL

Alberto GONZALO CALLEJO, Universidad de Zaragoza, Instituto de Investigación en Ingeniería de Aragón, SPAIN

Co-authors: J.L. Sánchez, J. Salafranca, N. Gil-Lalaguna, C. Dueso, A. Gonzalo, Universidad de Zaragoza / Aragón Institute for Engineering Research (I3A), Zaragoza, Spain; S. Moles, J.F. Palomo, C. Martínez, Universidad de Zaragoza, Zaragoza, Spain

3CO.11.3

PHYSICAL AND STRUCTURAL PROPERTIES OF XYLAN-BASED BIODEGRADABLE FILMS FROM SORGHUM BY-PRODUCTS

Prima LUNA, University of Reading, Food and Nutritional Sciences Dpt., UNITED KINGDOM

Co-authors: A Chatzifragkou, D Charalampopoulos, University of Reading, United Kingdom

3CO.11.4

CONSORTIA BASED PRODUCTION OF BIOCHEMICALS

Sheila Ingemann JENSEN, Technical University of Denmark, Novo Nordisk Foundation, Center for Biosustainability, DENMARK

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3CO.11.5

PRODUCTION OF ANTIOXIDANT ADDITIVES FOR BIODIESEL USING RESIDUES FROM WINE INDUSTRY

Jose Luis SANCHEZ CEBRIÁN, Universidad de Zaragoza, Chemical & Environmental Engineering Dpt., SPAIN

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15:15 - 16:45

ORAL SESSION ICO.12

Small Scale Industrial Application for Heat and Power

ROOM: K23+K24

CHAIRPERSONS:

Liang WANG, SINTEF Energy Research, NORWAY

Andrea Maria RIZZO, University of Florence, Industrial Engineering Dpt. ITALY

ICO.12.1

THE USE OF FAST PYROLYSIS OIL IN DIESEL ENGINES FOR CHP APPLICATIONS

Bert VAN DE BELD, BTG Biomass Technology Group, THE NETHERLANDS

Co-authors: L. van de Beld, E. Holle, J. Florijn, BTG Biomass technology Group BV, Enschede, The Netherlands

ICO.12.2

ENABLING SOLID BIOMASS FIRED SMALL SCALE COGENERATION SYSTEMS WITH THE TWIN SCREW WET STEAM EXPANDER TECHNOLOGY

Marco IEZZI, Heliex Power, Thermodynamics and Product Planning Dpt., UNITED KINGDOM

Co-author: M.G. Read, City, University of London, London, United Kingdom

ICO.12.3

POTENTIAL OF A MACHINE VISION-BASED COMBUSTION MONITORING SYSTEM IN OPTIMIZING STEP-GRATE BIOMASS COMBUSTION

Attila GARAMI, University of Miskolc, Combustion Technology and Thermal Energy Dpt., HUNGARY

Co-authors: P. Tóth, University of Miskolc, Hungary; P. Kókai, MIHO Ltd., Miskolc, Hungary

ICO.12.4

Invited

ICO.12.5

EVALUATION OF THE COMBUSTION BEHAVIOUR OF STRAW, POPLAR AND MAIZE IN A SMALL-SCALE BIOMASS BOILER

Joachim KELZ, Bioenergy 2020+, AUSTRIA

Co-authors: O. Krenn, C. Zemann, D. Muschick, M. Gölls, St. Retschitzegger, A. Weissinger, C. Schmidl, W. Haslinger, Bioenergy 2020, Graz, Austria; G. Hofmeister, KWB, St. Margarethen/Raab, Austria; C. Hochenauer, Institute of Thermal Engineering, Graz University of Technology, Graz, Austria

15:15 - 16:45

VISUAL PRESENTATIONS 2CV.3

Gasification Research through Modeling and Pilot Installation Studies and Advances in Gasification and Gas Cleaning of Synthesis Gas Production

ROOM: Poster Area

CHAIRPERSONS:

Wiebren DE JONG, Delft University of Technology, THE NETHERLANDS

Wolter PRINS, University of Ghent, BELGIUM

Matthias KUBA, Bioenergy 2020+, Graz, Austria

2CV.3.3

DEVELOPMENT OF A NEW DESIGN CONCEPT AND OPERATIONAL EXPERIENCE OF A HIGHLY EFFICIENT, COMPACT SIZE MICRO-CHP PLANT FOR VARIOUS BIOMASS FUELS

Markus BUCHMAYR, Graz University of Technology, Institute of Thermal Engineering, AUSTRIA

Co-authors: J. Gruber, M. Hargassner, Hargassner GmbH, Weng, Austria; C. Hochenauer, Graz University of Technology, Austria

2CV.3.4

THE USE OF NATURAL GAS BLENDS WITH SYNGAS FROM BIOMASS IN GAS MICRO TURBINES. THERMAL PERFORMANCE AND EMISSIONS TESTS

Electo Eduardo SILVA LORA, Universidade Federal de Itajubá, Instituto de Engenharia Mecânica, BRAZIL

Co-authors: P.S. Correa, L.R. Pinto, E.E.S. Lora, R. Vieira, UNIFEI, Itajubá, Brazil; A. Ratner, UIOWA, IOWA, Usa

2CV.3.5

DEVELOPMENT OF A HIGHLY EFFICIENT MICRO-SCALE CHP SYSTEM BASED ON FUEL-FLEXIBLE GASIFICATION AND A SOFC

Thomas BRUNNER, Bios Bioenergiesysteme, AUSTRIA

Co-authors: I. Obernberger, Bios Bioenergiesysteme, Graz, Austria; M. Kerschbaum, Windhager Zentralheizung Technik GmbH, Seekirchen, Austria; P.V. Aravind, Delft University of Technology, Delft, The Netherlands; R. Makkus, HyGear BV, Arnhem, The Netherlands; S. Meigel, Fraunhofer Institut fuer Keramische Technologien und Systeme, Dresden, Germany; M. Hauth, AVL LIST GmbH, Graz, Austria; T. Goetz, Wuppertal Institut für Klima, Umwelt, Energie GmbH, Wuppertal, Germany; W. Zappa, Utrecht University, Utecht, The Netherlands

2CV.3.6

POLYGENERATION AIMING THE GENERATION OF HYDROGEN AND HYTHANE VIA BIOMASS STEAM GASIFICATION

Michael KRAUSSLER, Bioenergy 2020+, Area Gasification Dpt., AUSTRIA

Co-authors: J. Priscak, Bioenergy2020+, Guessing, Austria; F. Benedikt, H. Hofbauer, TU Wien, Vienna, Austria

2CV.3.8

MULTI-PHASE FLUID DYNAMIC OF SYNGAS FLOW ACROSS A THROTTLE BODY IN A GASIFIER-ENGINE SYSTEM

Giulio ALLESINA, BEELab (Bio Energy Efficiency Laboratory), Enzo Ferrari Engineering Dpt., ITALY

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2CV.3.9

ANALYSIS OF BIOMASS CHAR'S THERMAL DECOMPOSITION: EXPERIMENTAL TESTS AND MODELLING IN NITROGEN AND IN CARBON DIOXIDE ATMOSPHERE

Eleonora CORDIOLI, Free University of Bolzano, Faculty of Science and Technology, ITALY

Co-authors: F. Patuzzi, M. Baratieri, Free University of Bolzano, Italy

2CV.3.10

VALORIZATION PATHWAYS FOR CHAR FROM SMALL SCALE GASIFICATION SYSTEMS IN SOUTH-TYROL: THE "NEXT GENERATION" PROJECT

Francesco PATUZZI, Free University of Bolzano, Faculty of Science and Technology, ITALY

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2CV.3.13

SEPIOLITE PERFORMANCE AS BED MATERIAL TOWARDS GAS AND TAR COMPOSITIONS DURING C. CARDUNCULUS L. GASIFICATION

Daniel SERRANO GARCIA, Carlos III University of Madrid, Thermal and Fluid Engineering Dpt., SPAIN

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2CV.3.14

BIOMASS GASIFICATION CHAR AS A LOW-COST ADSORBENT FOR CO₂ CAPTURE

Vittoria BENEDETTI, Free University of Bolzano, Faculty of Science and Technology, ITALY

Co-authors: F. Patuzzi, M. Baratieri, Free University of Bolzano, Italy

2CV.3.15

EXPERIMENTAL RESULTS AND PARAMETRIC ANALYSIS OF WOOD, TORREFIED AND COFFEE GROUNDS PELLETS GASIFICATION CARRIED OUT ON A PILOT PLANT REACTOR

Daniele ANTOLINI, Free University of Bolzano, Faculty of Science and Technology, ITALY

Co-authors: M. Grigante, M. Brighenti, University of Trento, Italy

2CV.3.17

INFLUENCE OF THE STOICHIOMETRIC RATIO ON TAR AND HYDROCARBON COMPOSITION DURING FLUIDIZED BED GASIFICATION

Diego FUENTES-CANO, University of Seville, Chemical and Environmental Engineering Dpt., SPAIN

Co-authors: A. Gómez-Barea, P. Haro, S. Nilsson, University of Seville, Seville, Spain

2CV.3.18

DEVELOPMENT OF A MULTI-STAGE BIOMASS GASIFICATION TECHNOLOGY TO PRODUCE ENERGY QUALITY GAS

Alexander KOZLOV, Melentiev Energy Systems Institute, Thermodynamics Dpt., RUSSIAN FEDERATION

Co-authors: D. Svishchev, A. Keiko, V. Shamansky, Melentiev Energy Systems Institute of Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russian Federation

2CV.3.19

EFFECT OF FEEDSTOCK HEATING RATE ON SUPERCRITICAL WATER GASIFICATION OF GLUCOSE AND GUAIACOL MIXTURE

Yukihiko MATSUMURA, Hiroshima University, Energy and Environmental Engineering Division, JAPAN

Co-authors: S. Inoue, O. Farobie, P. Changsuwan, Hiroshima University, Higashi-Hiroshima, Japan; T. Inoue, Fukken Co., Ltd., Hiroshima, Japan; Y. Kawai, Chuden Plant Co., Ltd., Hiroshima, Japan; T. Noguchi, Toyo Koatsu Co., Ltd., Hiroshima, Japan; H. Tanigawa, The Chugoku Electric Power Co., Inc. University, Higashi-Hiroshima, Japan

2CV.3.21

TAR REMOVAL FROM SYNGAS WITH NATURAL ZEOLITES FROM TUFFS: WET SCRUBBING AND CATALYTIC CRACKING

Valerio PAOLINI, National Research Council, Institute of Atmospheric Pollution Research, ITALY

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2CV.3.22

MODELLING OF A SMALL SCALE ENERGY CONVERSION SYSTEM BASED ON AN OPEN TOP GASIFIER COUPLED WITH A DUAL FUEL DIESEL ENGINE

Carlo CALIGIURI, Free University of Bolzano, ITALY

Co-authors: D. Antolini, F. Patuzzi, M. Renzi, M. Baratieri, University of Bolzano, Italy

2CV.3.25

DETAILED MODELING OF BIOMASS GASIFICATION AND COMBUSTION UNDER ASPEN PLUS: FROM THE FOREST TO THE PROCESS

Francis BILLAUD, CNRS-LRGP, Process Engineering (Biomass) Dpt., FRANCE

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2CV.3.26

ALGAE CONVERSION TO HYDROGEN AND POWER BY INTEGRATION OF DRYING, GASIFICATION, AND CHEMICAL LOOPING COMBUSTION

Muhammad AZIZ, Tokyo Institute of Technology, Institute of Innovative Research, JAPAN

Co-author: I.N. Zaini, Institute of Innovative Research, Tokyo Institute of Technology, Japan

2CV.3.30

ASSESSMENT OF THE SYNGAS PRODUCED BY GASIFICATION OF VINE SHOOTS IN AN EXPERIMENTAL DOWNDRAFT REACTOR

Leonardo LONGO, Consiglio per la Ricerca in Agricoltura e l'Analisi dell'Economia Agraria, Dip. Ingegneria agraria, ITALY

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2CV.3.33

BIOMASS GASIFICATION IN DOWNDRAFT DUAL STAGE REACTOR BY EXPERIMENTAL ANALYSIS AND SIMULATION WITH CFD TOOLS

Electo Eduardo SILVA LORA, Universidade Federal de Itajubá, Instituto de Engenharia Mecânica, BRAZIL

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2CV.3.34

TECHNICAL EVALUATION OF RESIDUAL BIOMASSES IN COLOMBIA FOR GASIFICATION IN FLUIDIZED BED

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2CV.3.35

CFD SIMULATION OF A SMALL-SCALE UP-DRAFT CO-GASIFICATION OF WOOD PELLET AND CHARCOAL WITH EXPERIMENTAL VERIFICATION

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2CV.3.37

VAPOR-PHASE REACTIONS OF CELLULOSE GASIFICATION

Haruo KAWAMOTO, Kyoto University, Graduate School of Energy Science, JAPAN

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2CV.3.40

THE FLEDGED PROJECT: DME PRODUCTION FROM BIOMASS GASIFICATION WITH FLEXIBLE SORPTION-ENHANCED PROCESSES

Matteo Carmelo ROMANO, Polytechnic of Milan, Group of Energy Conversion Systems, ITALY

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2CV.3.41

PILOT PLANT AIR-STEAM GASIFICATION OF NUT SHELLS FOR SYNGAS PRODUCTION

Francesco ZIMBARDI, ENEA Research Centre, Energy Technologies Department, ITALY

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2CV.3.45

MULTI-STEP REACTION KINETIC MODEL FOR SECONDARY VAPOR-PHASE CRACKING OF LIGNIN-DERIVED TAR

Elmer LEDESMA, University of St. Thomas, Chemistry and Physics Dpt., USA

2CV.3.47

CHARACTERISATION OF THE CHAR OBTAINED FROM BIOMASS GASIFICATION IN A SPOUTED BED REACTOR

Filippo MARCHELLI, Free University of Bolzano, Faculty of Sciences and Technology, ITALY

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2CV.3.49

BIOMASS PARTICLE GASIFICATION: TOWARDS A RELIABLE COMPREHENSIVE MODEL FOR BIOMASS PARTICLE GASIFICATION

Xiyan LI, Aalborg University, Energy Technology Dpt., DENMARK

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2CV.3.50

COMBINED STEAM AND CO₂-GASIFICATION IN FLUIDISED BED STEAM GASIFIERS AND INFLUENCE ON SUBSEQUENT HOT GAS CLEANING

Felix FISCHER, Technische Universität München, Institute for Energy Systems, GERMANY

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2CV.3.54

A KINETIC STUDY OF STEAM GASIFICATION OF RESIDUAL BIOMASS FROM SICILIAN AGRO-INDUSTRIES

Mauro PRESTIPINO, University of Messina, Engineering Dpt., ITALY

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2CV.3.55

NON-THERMAL PLASMA-CATALYTIC PROCESSING FOR TAR REDUCTION TO DELIVER HIGH QUALITY SYNGAS FROM REAL BIOMASS GASIFICATION

Ella BLANQUET, University of Leeds, School of Chemical & Process Engineering, UNITED KINGDOM

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2CV.3.61

COMPARISON BETWEEN EQUILIBRIUM AND KINETIC MODELS WITH ASPEN PLUS FOR A FULL SCALE BIOMASS DOWNDRAFT GASIFIER

Stefano FRIGO, University of Pisa, Energy, Systems, Territory and Construction Engineering Dpt., ITALY

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2CV.3.62

CRYSTAL-PLANE EFFECT OF CERIA ON THE ACTIVITY OF AU/CEO₂ FOR PREFERENTIAL CO OXIDATION

Mike CARLTONBIRD, The Petroleum and Petrochemical College, Chulalongkorn University, THAILAND

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2CV.3.63

ADSORPTION AND DESORPTION OF METHANE AND CARBON DIOXIDE ON COCONUT SHELL ACTIVATED CARBON: EFFECT OF DESORPTION TIME AND CARBON DIOXIDE ADSORPTION

Suwadee UTTARAPHAT, Chulalongkorn University, The Petroleum and Petrochemical College, THAILAND

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2CV.3.65

INVESTIGATION OF AMMONIA REMOVAL IN THE SIMULATED GAS OF BIOMASS GASIFICATION BY H₂-REDUCED TITANOMAGNETITE

Yanjie WANG, University of Canterbury, Chemical and Process Engineering Dpt., NEW ZEALAND

Co-authors: S. Pang, S. Pang, University of Canterbury, Christchurch, New Zealand

16:45 - 17:00

BREAK

17:00 - 18:30

ORAL SESSION 2CO.13

Production, Characterisation and Supply of Solid Biofuels

ROOM: K21

CHAIRPERSONS:

Volker LENZ, DBFZ-German Biomass Research Centre, GERMANY

York NEUBAUER, TU Berlin, GERMANY

2CO.13.1

PRE-PROCESSING OF BIOMASS BY ROLLING - A COMBINED EXPERIMENTAL AND NUMERICAL ANALYSIS

Klaus Schütt HANSEN, IPU, DENMARK

Co-authors: P. Christiansen, Dept. of Mech. Eng., Technical University of Denmark IPU, Kgs. Lyngby, Denmark; T. Koch, C. Porte, TK Energy, Koege, Denmark; A.A. Rasmussen, IPU, Kgs. Lyngby, Denmark; N. Bay, Dept. of Mech. Eng., Technical University of Denmark, Kgs. Lyngby, Denmark

2CO.13.2

STUDY OF THE PRODUCTION OF PELLETIZED BIOFUELS FROM MEDITERRANEAN SCRUB BIOMASS

Raquel BADOS SEVILLANO, CIEMAT-CEDER, Energía Dpt., SPAIN

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2CO.13.3

WARREN-SPRING BASED MODEL FOR THE SHEAR YIELD LOCUS OF BIOMASS POWDERS

Clement VANNESTE-IBARCQ, CEA-Liten, Laboratoire de Préparation des Bioressources, FRANCE

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2CO.13.4

POSSIBILITIES TO REDUCE BIOMASS SUPPLY COSTS THROUGH A TERMINAL

Matti VIRKKUNEN, VTT Technical Research Centre of Finland, Biofuels and Bioenergy Dpt., FINLAND

Co-author: J. Raitila, VTT, Jyväskylä, Finland

2CO.13.5

EUBCE STUDENT AWARDEE PRESENTATION

DEVELOPMENT OF A MODEL TO PREDICT THE GRATE BURNING PROFILE OF BIOMASS DERIVED CHAR

Scott RUSSELL, University of Nottingham, Centre for Doctoral Training in Efficient Fossil Energy Technologies, UNITED KINGDOM

Co-authors: J.L. Turrion, CPL Industries Ltd., Immingham, United Kingdom; P. Langston, C.E. Snape, University of Nottingham, United Kingdom

17:00 - 18:30

ORAL SESSION 4CO.14

Climate Impacts of Bioenergy Systems

ROOM: K2

CHAIRPERSONS:

Patricia THORNLEY, SUPERGEN Bioenergy Hub, UNITED KINGDOM

Jacopo GIUNTOLI, European Commission, JRC, THE NETHERLANDS

4CO.14.1

LIFE CYCLE ASSESSMENT OF CLIMATE IMPACT OF BIOENERGY FROM A LANDSCAPE

Torun HAMMAR, Swedish University of Agricultural Sciences, Energy and Technology Dpt., SWEDEN

Co-authors: C. Sundberg, Swedish University of Agricultural Sciences, KTH Royal Institute of Technology, Uppsala, Sweden; J. Stendahl, A. Larssolle, P-A. Hansson, Swedish University of Agricultural Sciences, Uppsala, Sweden

4CO.14.2

ASSESSING ENERGY CROP ILUC POTENTIAL ON A REGIONAL SCALE

Kristine BITNER, International Council on Clean Transportation, Fuels Researcher Dpt., GERMANY

Co-authors: C.V. Petrenko, Independent consultant, San Francisco, Usa; S.Y. Searle, International Council on Clean Transportation, Washington, Usa

4CO.14.3

IMPLICATIONS OF DIRECT LAND USE-CHANGE ON THE GREENHOUSE GAS BALANCE OF BIOENERGY CROPS

Jeanette WHITAKER, Centre for Ecology and Hydrology, Plant-Soil Interactions Dpt., UNITED KINGDOM

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4CO.14.4

CLIMATE CHANGE IMPACTS AND RELATED EMISSION UNCERTAINTIES FROM WASTE WOOD BASED ENERGY SYSTEMS IN THE UK

Mirjam ROEDER, University of Manchester, UNITED KINGDOM

Co-author: P. Thornley, University of Manchester, Manchester, United Kingdom

4CO.14.5

COMPARATIVE LIFE CYCLE ASSESSMENT OF BIOMASS UTILIZATION FOR ELECTRICITY GENERATION IN THE EUROPEAN UNION AND THE UNITED STATES

Emily BEAGLE, University of Wyoming, Mechanical Engineering Dpt., USA
Co-author: E. Belmont, University of Wyoming, Laramie, Usa

17:00 - 18:30

ORAL SESSION 3CO.15

New Scientific Findings for Bio-alcohol Production

ROOM: K1

CHAIRPERSONS:

Jan LINDSTEDT, Lindab Sweden, SWEDEN
Dina BACOVSKY, Bioenergy 2020+, AUSTRIA

3CO.15.1

TECHNO-ECONOMIC AND ENVIRONMENTAL ANALYSIS OF GLOBAL BIOMASS SUPPLY CHAINS FOR GERMANY - EXEMPLIFIED BY A CASE STUDY FOR ETHANOL AND PYROLYSIS SLURRY FROM BRAZIL

Tobias DOMNIK, Karlsruhe Institute of Technology, Institute for Technology Assessment and System Analysis, GERMANY
Co-authors: E. Wendeberg, D. Poncette, S. Kälber, L. Leible, Karlsruhe Institute of Technology, Germany; C. Aipperspach, C. Jahn, L. Kretschmann, Hamburg University of Technology, Germany

3CO.15.2

IMPROVING SUSTAINABILITY OF MAIZE TO ETHANOL PROCESSING BY PLANT BREEDING AND PROCESS OPTIMIZATION

Petronella Margaretha SLEGGERS, Wageningen University, Biobased Chemistry and Technology Dpt., THE NETHERLANDS
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3CO.15.3

RECOVERY OF BUTANOL FROM ABE FERMENTATION BROTH BY GAS STRIPPING: PROCESS SIMULATION AND TECHNO-ECONOMIC EVALUATION

Gabriele LODI, Polytechnic of Milan, Chemistry, Materials and Chemical Engineering Dpt. G. Natta, ITALY
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3CO.15.4

FUNGI AS BIOMASS PRETREATMENT AGENTS FOR BIOFUEL APPLICATIONS

Hector FLORES, Universidad Nacional de Agricultura, Natural Resources and Environment Management Dpt., HONDURAS

3CO.15.5

UNDERSTANDING EFFECT OF SUGAR COMPOSITION ON CELL GROWTH: FERMENTATION OF GLUCOSE AND XYLOSE BY CLOSTRIDIUM ACETOBUTYLICUM ATCC 824

Cansu BIRGEN, Norwegian University of Science and Technology, Chemical Engineering Dpt., NORWAY
Co-authors: H. A. Preisig, Norwegian University of Science and Technology, Trondheim, Norway; A. Wentzel, S. Markussen, B. Wittgens, SINTEF Materials and Chemistry, Trondheim, Norway; U. Sarkar, S. Saha, S. Baksi, Jadavpur University, Kolkata, India

17:00 - 18:30

ORAL SESSION ICO.16

Optimisation of Systems and Methods for Improvements in Feedstock Production and Supply

ROOM: K23+K24

CHAIRPERSONS:

Eija ALAKANGAS, VTT Technical Research Centre of Finland, FINLAND

Ines DEL CAMPO, CENER, SPAIN

ICO.16.1

CHANCES AND CHALLENGES OF BIOMASS FROM LANDSCAPE CONSERVATION AND MAINTENANCE WORK IN CONVERSION ROUTES ON DIFFERENT SCALE

Mini BAJAJ, SYNCOM Forschungs- und Entwicklungsberatung, GERMANY

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ICO.16.2

PRELIMINARY EVALUATION OF THE PERFORMANCES OF A PURPOSE DESIGNED MACHINE FOR GRASS HARVESTING AND PRE-PROCESSING IN ORCHARDS, VINEYARDS AND UNCULTIVATED AREAS.

Massimo BRAMBILLA, Consiglio per la Ricerca in Agricoltura e l'analisi dell'economia Agraria, Unità di Ricerca per l'Ingegneria Agraria, ITALY

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ICO.16.3

NEW OPPORTUNITIES FOR OPTIMIZED INFEEED OF STRAW FOR COMBUSTION AND BIOETHANOL PRODUCTION

Bodil Engberg PALLESEN, Danish Technological Institute, AgroTech Dpt., DENMARK

ICO.16.4

POTENTIALS OF BIOMASS AND ITS MOBILIZATION PROCESS IN BANGLADESH

Mohammad Rokibul ISLAM, Esho Jati Gorhi, Biomass Dpt., BANGLADESH

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ICO.16.5

ILUC IS ABOUT BIOMASS DISPLACEMENT - WHERE THERE IS NO DISPLACEMENT THERE IS NO ILUC

James COGAN, Industry & Policy Analyst, IRELAND

17:00 - 18:30

VISUAL PRESENTATIONS 2CV.4

Optimising Biogas Processes by Feedstocks, Technologies and Gas Utilisation

ROOM: Poster Area

CHAIRPERSONS:

Jens Bo HOLM-NIELSEN, Aalborg University, DENMARK

Bernhard DROSG, Bioenergy 2020+, AUSTRIA

Alessandro AGOSTINI, ENEA, Italy

2CV.4.1

BIOGAS TREATMENT USING ALTERNATIVE ADSORBENTS: PILOT TEST RESULTS WITH MUNICIPAL SOLID WASTE INCINERATION BOTTOM ASH

Marta FONTSERE OBIS, INSA Lyon, DEEP Laboratory, FRANCE

Co-authors: M. Fontseré Obis, P. Germain, H. Benbelkacem, INSA Lyon, Villeurbanne, France

2CV.4.5

EFFECT OF MECHANICAL, CHEMICAL AND BIOLOGICAL PRE-TREATMENTS IN THE ANAEROBIC DIGESTION OF WOOD

Ioannis ZARKADAS, Aristotle University of Thessaloniki, Chemical Engineering Dpt., GREECE

Co-authors: D. Sarigiannis, F. Kaldis, M. Lioti, Aristotle University of Thessaloniki, Greece; P. Katopodis, University of Ioannina, Greece

2CV.4.6

A SUSTAINABLE BIOENERGY GENERATION PROCESS COMBINING DIGESTATE FOR ALGAE CULTIVATION AND FURTHER ANAEROBIC DIGESTION FOR METHANE PRODUCTION

Na DUAN, China Agricultural University, College of Water Resources and Civil Engineering, P.R. CHINA

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2CV.4.7

COMPARATIVE STUDY CONCERNING ANAEROBIC FERMENTATION OF CEREAL DEGRADED MATERIALS

Ioana IONEL, Universitatea Politehnica Timisoara, Mechanical Engineering Dpt., ROMANIA

Co-authors: A.E. Cioabla, A.G. Dumitrel, M.D. Vasilescu, Universitatea Politehnica Timisoara, Romania

2CV.4.12

BIOGAS YIELD OF THE RESIDUES FROM THE CARDOON SEEDS MILLING: RESULTS OF THE PRELIMINARY LABORATORY EXPERIMENTATIONS

Andrea NICOLINI, University of Perugia, CIRIAF, ITALY

Co-authors: G. Cavalaglio, V. Coccia, A. Petrozzi, F. Cotana, E. Pompili, CIRIAF-CRB, Perugia, Italy

2CV.4.13

Software Development for Bioelectrochemical System Modelling

Mobolaji SHEMAFE, University of Surrey, Centre for Environment and Sustainability, UNITED KINGDOM

Co-author: J. Sadhukhan, University of Surrey, Guildford, United Kingdom

2CV.4.14

INVESTIGATION AND OPTIMIZATION OF THE MIXING IN A BIOGAS DIGESTER WITH A LABORATORY EXPERIMENT AND AN ARTIFICIAL MODEL SUBSTRATE

Leonhard WIEDEMANN, Technische Hochschule Ingolstadt, Institute of New Energy Systems, GERMANY

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2CV.4.16

EVALUATION OF LOW-COST ENHANCED BIODIGESTERS FOR PUBLIC USE IN RURAL SOCIETIES IN COLOMBIA

Eric Charles PETERSON, Universidad Icesi, Biochemical Engineering Dpt., COLOMBIA

Co-authors: J.W.A. Langeveld, Biomass Research, Wageningen, The Netherlands; P.M.F. Quist-Wessel, Agriquest, Heteren, The Netherlands

2CV.4.17

ANAEROBIC DIGESTION OF FOOD WASTE

Gilberto MARTINS, Universidade Federal do ABC, CECS Dpt., BRAZIL

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2CV.4.18

ANAEROBIC DIGESTION OF ENERGY BEETS

Vilis DUBROVSKIS, Latvia University of Agriculture, Institute of Energetics, LATVIA

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2CV.4.19

DUCKWEED AS INNOVATIVE FEEDSTOCK FOR BIOGAS PRODUCTION - A COMPARISON OF TWO FERMENTER CONCEPTS

Torsten REINELT, DBFZ-German Biomass Research Centre, Biochemical Conversion Dpt., GERMANY

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2CV.4.25

THE COMPARISON OF INOCULUM SOURCES ON START-UP OF ANAEROBIC DIGESTION TREATING PROTEIN- AND LIPID-RICH SUBSTRATE

Seokhwan HWANG, Pohang University of Science and Technology, KOREA

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2CV.4.28

GRASS FROM LANDSCAPING MEASURES IN BIOGAS PRODUCTION - A SYSTEMS ANALYTICAL APPROACH

Tobias DOMNIK, Karlsruhe Institute of Technology, Institute for Technology Assessment and System Analysis, GERMANY

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2CV.4.29

CONVERSION OF FOOD WASTE INTO ENERGY: IMPACT OF THERMAL PRE-TREATMENT ON HYDROGEN AND METHANE PRODUCTION

Camilla Maria BRAGUGLIA, CNR - Istituto di Ricerca sulle Acque, ITALY

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2CV.4.30

EFFECT OF HYDRAULIC RETENTION TIME ON PERFORMANCE AND MICROBIAL COMMUNITY STRUCTURE IN ANAEROBIC DIGESTION OF WASTE ACTIVATED SLUDGE

Seung Gu SHIN, Pohang University of Science and Technology, School of Environmental Science and Engineering, KOREA

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2CV.4.33

MULTI-STAGE SEMI-DRY ANAEROBIC DIGESTION OF OFMSW AND CATTLE MANURE IMPROVED BY NATURAL ZEOLITES

Valerio PAOLINI, National Research Council, Institute of Atmospheric Pollution Research, ITALY

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2CV.4.35

EVALUATION AND MODELLING THE ENERGY EFFICIENCY OF COMMERCIAL SCALE BIOGAS PLANTS

René CASARETTO, Hochschule Flensburg, Green Engineering Dpt., GERMANY

Co-author: J. Born, Hochschule Flensburg, Flensburg, Germany

2CV.4.38

ISOLATION OF PROTEASE-PRODUCING BACILLUS SP. FROM WASTEWATER SLUDGE FOR SOLUBILIZATION OF PRIMARY SLUDGE

Junghyun JU, Korea Research Institute of Bioscience and Biotechnology, KOREA

Co-authors: D.J. Ko, J.W. Seo, C.H. Kim, B.R. Oh, Korea Research Institute of Bioscience and Biotechnology, Jeongeup, Korea

2CV.4.42

SCREENING OF LIPASE-PRODUCING BURKHOLDERIA SP. FROM WASTEWATER SLUDGE FOR SOLUBILIZATION OF PRIMARY SLUDGE

Sun-Yeon HEO, Korea Research Institute of Bioscience and Biotechnology, KOREA

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2CV.4.44

THE USE OF THE HYDRODYNAMIC CAVITATION FOR DISINTEGRATION OF LIGNOCELLULOSIC BIOMASS

Magdalena ZIELINSKA, University of Warmia and Mazury, Environmental Biotechnology Dpt., POLAND

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2CV.4.45

EFFECT OF HYDRODYNAMIC DISINTEGRATION OF THE LIGNOCELLULOSIC SUBSTRATE ON THE EFFECTIVENESS OF THE AGRICULTURAL BIOGAS PLANT

Agnieszka CYDZIK-KWIATKOWSKA, University of Warmia and Mazury in Olsztyn, Environmental Biotechnology Dpt., POLAND

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