

Conference Programme



CONFERENCE PROGRAMME
MONDAY, 12 JUNE 2017

MONDAY

09:00	Conference Opening				EXHIBITION
10:00	Plenary Session Keynotes on Applications of Science in Industry				
11:25	Opening Addresses Moderated Panel				
12:30	Linneborn Award EUBIA Award				
12:30	Lunch Break				
13:30	1AO.1 T1.1	2AO.2 T2.2	3AO.3 T3.2	4AV.1 T4.1/4.4/ 4.5	
15:00	Break				
15:15	1AO.4 T1.6	2AO.5 T2.2	3AO.6 T3.2	4AV.2 T4.2/4.3	
16:45	Break				
17:00	1AO.7 T1.2	2AO.8 T2.3	3AO.9 T3.6	3AV.3 T3.2	
18:30	Welcome Reception				

1 Biomass Resources T1.1 Biomass potentials and biomass mobilisation T1.6 Integrated biomass production for energy purposes
2 Biomass Conversion Technologies for Heating, Cooling and Electricity T2.2 Biomass and bioliquids combustion for small and medium scale applications T2.3 Biomass combustion in large utilities
3 Biomass Conversion Technologies for fuels, chemicals and materials T3.2 Pyrolysis and other biomass liquefaction technologies T3.6 Biorefineries
4 Biomass Policies, Markets and Sustainability T4.1 Market implementation, investments & financing T4.2 Sustainability, certification and standards T4.3 Environmental impacts of bioenergy T4.4 Resource efficient bioeconomy and social opportunities T4.5 Biomass strategies and policies

MONDAY CONFERENCE OPENING

09:00

PLENARY SESSION

Application of Science in Industry

Chaired by:

Nicolae SCARLAT

Technical Programme Chairman

European Commission, Joint Research Centre, Directorate for Energy, Transport and Climate

Remigijus LAPINSKAS

World Bioenergy Association, President

Speakers:

Anneli WALDÉN, Stockholms läns landsting, Strategist Energy and Environment, SWEDEN

Mika AHO, St1 Nordic Oy, Director, Public Affairs, FINLAND

Marko JANHUNEN, UPM Biorefining Vice President, FINLAND

Oskar MEIJERINK, Business Development Manager SkyNRG, THE NETHERLANDS

10:00

OPENING ADDRESSES / POLITICAL OPENING

11:00

MODERATED OPENING PANEL

12:00

LINNEBORN PRIZE 2017

EUBIA AWARD 2017

12:30

PRESS CONFERENCE

13:30 - 15:00

ORAL SESSION 1AO.1

Biomass Potentials and Biomass Mobilisation

ROOM: K21

CHAIRPERSONS:

Benoit GABRIELLE, AgroParisTech - INRA, FRANCE

Qingsheng CAI, Nanjing Agricultural University, P.R. CHINA

1AO.1.1

INTRESS - LAND AS A RESOURCE

Alexa LUTZENBERGER, ALRENE, GERMANY

Co-author: F. Lichter, ALRENE, Eisenhüttenstadt, Germany

1AO.1.2

BIOGAS TRANSPORT GRIDS, CASE STUDY "PROVINCE OF WEST-FLANDERS"

Evert Jan HENGEVELD, Hanze University of Applied Sciences, Hanze Research Centre Energy, THE NETHERLANDS

Co-authors: J. Bekkering, W.J.T. Gemert, van, Hanze Research Centre Energy, Hanze UAS, Groningen, The Netherlands; M. Dael, van, Centre for Environmental Sciences, Hasselt University and VITO, Hasselt and Mol, Belgium; A.A. Broekhuis, University of Groningen, The Netherlands

1AO.1.3

ANTICIPATING CLIMATE CHANGE EFFECT ON BIOMASS PRODUCTIVITY AND VEGETATION STRUCTURE OF MEDITERRANEAN FORESTS TO PROMOTE THE SUSTAINABILITY OF THE WOOD ENERGY SUPPLY CHAIN

Emmanuel GARBOLINO, Mines Paris-tech, CRC - Centre de Recherche sur les Risques et les Crises, FRANCE

Co-authors: W. Daniel, AgroParisTech and MINES ParisTech/PSL Research University, Paris, France; V. Sanseverino-Godfrin, MINES ParisTech/PSL Research University, Sophia Antipolis, France

1AO.1.4

EVALUATION OF THE PRESENT STATE AND PERSPECTIVES FOR THE ENERGY AND ENERGY CARRIERS PRODUCTION FROM BIOMASS IN POLAND

Krystian BUTLEWSKI, Institute of Technology and Life Sciences, Biomass Processing Technologies Dpt., POLAND

1AO.1.5

DOMESTIC BIOMASS RESOURCES AND POTENTIAL BIOMASS DEMAND FOR CO-FIRING IN THE EU

Olivia CINTAS SANCHEZ, Chalmers University of Technology, Energy and Environment Dpt., SWEDEN

Co-authors: G. Berndes, L. Cutz, O. Englund, F. Johnsson, Chalmers University of Technology, Göteborg, Sweden

13:30 - 15:00

ORAL SESSION 2AO.2

Biomass Combustion and micro-CHP Technologies

ROOM: K2

CHAIRPERSONS:

Øyvind SKREIBERG, SINTEF Energy Research, NORWAY

Juan Esteban CARRASCO, CIEMAT, SPAIN

2AO.2.1

DEVELOPMENT OF A NEW MICRO CHP PELLET STOVE TECHNOLOGY

Ingwald OBERNBERGER, Bios Bioenergiesysteme, AUSTRIA

Co-authors: G. Weiss, BIOS Bioenergiesysteme, Graz, Austria; M. Koessl, RIKA Innovative Ofentechnik GmbH, Micheldorf, Austria

2AO.2.2

MODIFIES AND EXPERIMENTAL TESTS AN A LIQUID FUEL MICRO GAS TURBINE FUELED WITH PYROLYSIS OILS AND ITS BLENDS

Marco BUFFI, CREAR/RE-CORD, DIEF - Industrial Energy Dept., University of Florence, ITALY

Co-authors: A. Cappelletti, F. Martelli, CREAR, University of Florence, Florence, Italy; A.M. Rizzo, D. Chiamonti, CREAR/RE-CORD, University of Florence, Florence, Italy

2AO.2.3

RENEWABLE RESIDENTIAL HEATING WITH FAST PYROLYSIS BIO-OIL: RESIDUE2HEAT

Roy HERMANNNS, OWI Oel-Waerme-Institut, GERMANY

Co-authors: T. Ruetten, OWI Oel-Waerme-MEKU Energie Systeme GmbH & Co. KG Institut GmbH, Aachen, Germany; B. van de Beld, Biomass Technology Group. me-Institut, Hengelo, The Netherlands; A. Oasmaa, VTT, Espoo, Finland; P. Massoli, Istituto Motori, Consiglio Nazionale delle Ricerche, Napoli, Italy; A. Frassoldati, PTM Politecnico di Milano, Milano, Italy; A. Toussaint, BTG BioLiquids, Hengelo, The Netherlands; H. Insam, University of Innsbruck, Institute of Microbiology, Innsbruck, Austria

2AO.2.4

MEASUREMENTS OF FULL-COMBUSTION-CYCLE EMISSIONS FROM PEAT AND WOOD IN A DOMESTIC STOVE

Cian QUINN, University College Dublin, Mechanical and Materials Engineering Dpt., IRELAND

Co-author: W.J. Smith, University College Dublin, Ireland

2AO.2.5

PERFORMANCE EVALUATION OF A MODERN WOOD STOVE WHEN USING CHARCOAL

Alexis SEVAULT, SINTEF Energy Research, Thermal Energy Dpt., NORWAY

Co-authors: R. Khalil, O. Skreiberg, F. Goile, L. Wang, M. Seljeskog, R. Kempegowda, SINTEF Energy Research, Trondheim, Norway; B.C. Enger, SINTEF Materials and Chemistry, Trondheim, Norway

13:30 - 15:00

ORAL SESSION 3AO.3

Pilot Plant Application for Biomass Liquefaction

ROOM: K1

CHAIRPERSONS:

Andreas APFELBACHER, Fraunhofer-Institut UMSICHT, GERMANY

Wolter PRINS, University of Ghent, BELGIUM

3AO.3.1

BIORECOVER: BIOMASS RESIDUE CONVERSION & VALORISATION FOR AN ECONOMIC REFINERY

Paul DE WILD, Energy Research Centre of the Netherlands, Biomass & Energy Efficiency Dpt., THE NETHERLANDS

3AO.3.2

DROP IN POTENTIAL OF UPGRADED FUELS PRODUCED AT PILOT SCALE VIA HYDROTHERMAL LIQUEFACTION OF DIFFERENT BIOMASS FEEDSTOCKS

Patrick BILLER, Aarhus University, DENMARK

Co-authors: J. Yu, R.B Madsen, J. Becker, B.B. Iversen, I. Johannsen, M. Glasius, Aarhus University, Denmark

3AO.3.3

ONLINE BALANCING OF A PILOT SCALE FAST PYROLYSIS PLANT

Nicole WEIH, Karlsruhe Institute of Technology, Institute of Catalysis Research and Technology, GERMANY

Co-authors: A. Funke, C. Pfitzer, A. Niebel, N. Dahmen, Karlsruhe Institute of Technology, Germany

3AO.3.4

PYROLYSIS OF RESIDUAL BIOMASS IN A THERMO-CATALYTIC REFORMING PLANT AN EXPERIMENTAL INVESTIGATION OF SEWAGE SLUDGE

Johannes NEUMANN, Fraunhofer-Institut UMSICHT, Renewable Energy Dpt., GERMANY

Co-authors: A. Hornung, A. Apfelbacher, R. Daschner, Fraunhofer UMSICHT, Sulzbach-Rosenberg, Germany

3AO.3.5

EXPERIENCES OF PILOT SCALE CYCLONE PYROLYSIS

Ann-Christine JOHANSSON, RISE Bioeconomy, SP ETC, SWEDEN

Co-authors: L. Sandström, H. Wiinikka, O. Öhrman, SP Energy Technology Center, Piteå, Sweden

13:30 - 15:00

VISUAL PRESENTATIONS 4AV.1

From Research to Implementation in International Context and from Regions to Global Views

ROOM: Poster Area

CHAIRPERSONS:

Birger KERCKOW, FNR - Agency for Renewable Resources, GERMANY

Calliope PANOUTSOU, Imperial College, UNITED KINGDOM

4AV.1.1

BUILDING UP LOCAL BIOENERGY VALUE CHAINS BASED ON FRUIT TREE RESIDUES FROM PRUNING AND UPROOTING OPERATIONS: THE BOOSTING ROLE OF REGIONAL STAKEHOLDER NETWORKS

Massimo MONTELEONE, University of Foggia, STAR Research Unit - Agriculture Dpt., ITALY

4AV.1.2

PYROLYSIS AND THE PRICE OF CARBON - THE VALUE OF BIOCHAR

Niclas ERICSSON, Swedish University of Agricultural Sciences, Energy and Technology Dpt., SWEDEN

Co-author: S. Ahlgren, Swedish University of Agricultural Sciences, Uppsala, Sweden

4AV.1.4

A GENERALISED MODEL FOR THE CALCULATION OF CAPITAL AND ELECTRICITY PRODUCTION COSTS WITH SPECIAL EMPHASIS ON CO-DIGESTION BIOGAS CHAINS IN SPAIN

Hans LANGEVELD, Biomass Research, THE NETHERLANDS

Co-authors: M.S. Breure, J.W.A. Langeveld, Biomass Research, Wageningen, The Netherlands; J. Pombo, Universidade da Coruña, Santiago de Compostela, Spain

4AV.1.6

THE LEAST DESIRABLE OPTION - CONSUMERS - ATTITUDES TOWARDS BIOMETHANE AS A RAW MATERIAL FOR GREEN PACKAGING SOLUTIONS

Carsten HERBES, Nuertingen-Geislingen University, ISR Dpt., GERMANY

Co-authors: C. Beuthner, I. Ramme, Nuertingen-Geislingen University, Nuertingen, Germany

4AV.1.7

PROSPECTS FOR RENEWABLE MARINE FUELS - THE POTENTIAL ROLE OF BIOFUELS

Julia HANSSON, IVL Swedish Environmental Research Institute, Climate & Sustainable Cities, SWEDEN

Co-authors: S. Brynolf, M. Grahn, Chalmers University of Technology, Göteborg, Sweden

4AV.1.8

TECHNO-ECONOMIC FEASIBILITY OF PENNISETUM X PURPUREUM (ELEPHANT GRASS) SUBSTITUTION FOR CHARCOAL IN HAITI USING MONTE CARLO SIMULATION IN NET PRESENT VALUE ANALYSIS

Erica BELMONT, University of Wyoming, Mechanical Engineering Dpt., USA

Co-authors: A. Balogun Mohammed, Department of Mechanical Engineering, University of Wyoming, Laramie, USA; S. Vijlee, Donald P. Shiley School of Engineering The University of Portland, Usa

4AV.1.9

BIOPLASTICS: A GOOD GHG MITIGATION STRATEGY - THE CASE OF BRAZIL

Tjerk LAP, University of Groningen, Institute for Energy & Environmental Sciences, THE NETHERLANDS

Co-authors: A. Koberle, L. Nogueira, A. Szklo, R. Schaeffer, Federal University of Rio de Janeiro, Brazil; F. van der Hilst, Utrecht University, The Netherlands; R. Benders, A. Faaij, University of Groningen, The Netherlands

4AV.1.11

RESOURCE MANAGER-FOOD: REDUCING AVOIDABLE FOOD LOSSES IN GASTRONOMY

Dominik LEVERENZ, University of Stuttgart, Institute for Sanitary Engineering, Water Quality and Solid Waste Management, GERMANY

Co-authors: P. Pils, G. Hafner, University of Stuttgart, Germany

4AV.1.12

AGROCYCLE - A BLUEPRINT AND EU POLICY-FORMING PROTOCOL FOR THE RECYCLING AND VALORISATION OF AGRI-FOOD WASTE

Giuliano GRASSI, Secretary General, European Biomass Industry Association, BELGIUM

Co-authors: S. Ward, G. Hanley, UCD School, Dublin, Ireland; C. Burns, NNFFC, York, United Kingdom

4AV.1.13

A FOSSIL FUEL INDEPENDENT SWEDISH TRANSPORT SECTOR 2030 - THE ROLE OF INDUSTRY AND DISTRICT HEATING SYSTEMS AS HOSTS FOR BIOFUEL PRODUCTION

Elisabeth WETTERLUND, Luleå University of Technology, Energy Engineering, Div. of Energy Science, Engineering Sciences and Mathematics Dpt., SWEDEN

Co-author: K. Pettersson, SP Technical Research Institute of Sweden, Göteborg, Sweden

4AV.1.15

ASSESSING THE SOCIAL, ECONOMIC AND ENVIRONMENTAL EFFECTS OF "INTEGRATED MANURE MANAGEMENT" AS LOW-CARBON TRANSITION PATHWAY IN THE LIVESTOCK SECTOR IN THE NETHERLANDS

Eise SPIJKER, Stichting Joint Implementation Network, Research Dpt., THE NETHERLANDS

Co-author: A. Anger-Kraavi, Cambridge Econometrics, Cambridge, United Kingdom

4AV.1.16

SOCIO-ECONOMIC ASSESSMENT INCLUDING FEEDSTOCK SUPPLY AND MARKETABILITY CONCEPT OF HTC/HTL-PRODUCTS

Kay SUWELACK, Fraunhofer INT, GERMANY

Co-authors: A. Kruse, Conversion Technology and Life Cycle Assessment of Renewable Resources, Institute of Agriculture, Stuttgart, Germany; N. Dahmen, Institute for Catalysis Research and Technology, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany

4AV.1.20

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

Rita MERGNER, WIP, GERMANY

Co-authors: M. Colangeli, L. Traverso, M. Morese, Food and Agriculture Organization of the United Nations, Rome, ITALY

4AV.1.21

ASSESSING A BIOECONOMY NETWORK FROM AN INTEGRATED LIFE CYCLE PERSPECTIVE

Alberto BEZAMA, Helmholtz Centre for Environmental Research, Bioenergy Dpt., GERMANY
Co-authors: M. Budzinski, J. Hildebrandt, A. Siebert, D. Thrän, Helmholtz Centre for Environmental Research - UFZ, Leipzig, Germany

4AV.1.22

MONITORING MATERIAL FLOWS IN A BIOECONOMY REGION

Alberto BEZAMA, Helmholtz Centre for Environmental Research, Bioenergy Dpt., GERMANY
Co-authors: J. Hildebrandt, D. Thrän, Helmholtz Centre for Environmental Research - UFZ, Leipzig, Germany

4AV.1.24

AN APPRAISAL OF THE USE OF DOMESTICALLY GROWN FEEDSTOCK COMPARED WITH IMPORTED FEEDSTOCK OF BIOFUEL POWERED LOCOMOTIVES: A CASE STUDY OF INDIAN RAILWAYS

Charlotte STEAD, University of Leeds, UNITED KINGDOM
Co-authors: Z. Wadud, H. Li, C. Nash, University of Leeds, United Kingdom

4AV.1.28

IMPACT OF ALTERNATIVE FOREST BIOMASS DEMAND AND SUPPLY SCENARIOS ON THE REGIONAL ECONOMY IN FINLAND

Kalle KARTTUNEN, Lappeenranta University of Technology, School of Energy, FINLAND
Co-authors: A. Ahtikoski, Natural Resources Institute Finland, Oulu, Finland; H. Salminen, Natural Resources Institute Finland, Rovaniemi, Finland; J. Hynynen, Natural Resources Institute Finland, Vantaa, Finland; S. Kujala, H. Törmä, University of Helsinki, Seinäjoki, Finland; J. Kinnunen, Statistics and Research Åland, Mariehamn, Finland; T. Ranta, Lappeenranta University of Technology, Mikkeli, Finland

4AV.1.29

INTEGRATING MISCANTHUS INTO ARABLE SYSTEM TO SECURE SUSTAINABLE FEEDSTOCK SUPPLY FOR LIGNOCELLULOSIC SUCCINIC ACID PRODUCTION

Yuanzhi NI, Imperial College London, Center for Environmental Policy, UNITED KINGDOM
Co-authors: O. Mwabonje, K. Yeung, J. Woods, Imperial College, London, United Kingdom; G.M. Richter, A. Qi, Rothamsted Research, Harpenden, United Kingdom; M.K. Patel, University of Geneva, Switzerland

4AV.1.32

POSSIBILITIES OF CREATING FOSSIL FREE REGION - CASE SOUTH SAVO

Antti KARHUNEN, Lappeenranta University of Technology, LUT Energy, FINLAND
Co-authors: M. Laihanen, T. Ranta, Lappeenranta University of Technology, Finland

4AV.1.36

COMPARATIVE ANALYSES OF CURRENT BIOBASED ECONOMY POLICIES AND STRATEGIC INDIA-EU PARTNERSHIP

Neeta SHARMA, ENEA Research Centre, Biotechnology and Agro-industry Division, ITALY
Co-authors: D. Claps, ENEA Research Centre., Matera, Italy; P. Joshi, UCOST, DST, Govt. of India, Uttrakhand, India

4AV.1.38

REGIONAL ADDED VALUE OF REFINING FOREST BIOMASS FOR ENERGY PURPOSES IN FINLAND

Jarno FÖHR, Lappeenranta University of Technology, Laboratory of Bioenergy, FINLAND
Co-authors: K. Karttunen, R. KC, T. Ranta, Lappeenranta University of Technology, Mikkeli, Finland

4AV.1.42

EUBCE STUDENT AWARDEE PRESENTATION

HOW ARE THE EU MEMBER STATES CONTRIBUTING TO THE 27% TARGET FOR EU'S RENEWABLE ENERGY CONSUMPTION; THE ROLE OF WOODY BIOMASS.

Svetlana PROSKURINA, Lappeenranta University of Technology, Laboratory of Sustainable Energy Systems, FINLAND

Co-authors: R. Sikkema, European Commission - Joint Research Centre, Directorate Sustainable Resources, Bio-economy, Ispra, Italy; J. Heinimö, Mikkeli Development Miksei Ltd, Mikkeli, Finland; E. Vakkilainen, Lappeenranta University of Technology, Lappeenranta, Finland

4AV.1.43

BIOMASS HEAT SCENARIOS IN GERMANY

Katalin Nora SZARKA, DBFZ-German Biomass Research Centre, Bioenergy Systems Dpt., GERMANY

4AV.1.48

DEVELOPMENT OF FOREST CHIPS USE AND PRICE IN THE NORDIC COUNTRIES: A COMPARATIVE ANALYSIS

Tapio RANTA, Lappeenranta University of Technology, School of Energy Systems, FINLAND

Co-authors: O. Olsson, Stockholm Environment Institute, Sweden; W. Stelte, Danish Technological Institute, Taastrup, Denmark; E. Tromborg, Norwegian University of Life Sciences, Oslo, Norway

4AV.1.50

BIOMASS SUPPLY FOR ENERGY USE IN THE EUROPEAN UNION

Manjola BANJA, European Commission, JRC, Renewable and Energy Efficiency, ITALY

Co-authors: N. Scarlat, J.F Dallemand, DIR.C, C.2, European Commission, Joint Research Centre, Ispra, Italy; R. Sikkema, DIR.D, D.1, European Commission, Joint Research Centre, Ispra, Italy

4AV.1.51

OVERVIEW OF ADVANCED BIOFUELS TECHNOLOGIES: CURRENT STATUS AND CHALLENGES

Adrian O'CONNELL, European Commission, JRC, ITALY

Co-authors: S. Rocca, J. Giuntoli, European Commission, Joint Research Centre (JRC), Petten, The Netherlands; M. Padella, A. O'Connell, M. Kousoulidou, L. Marelli, European Commission, Joint Research Centre (JRC), Ispra, Italy

4AV.1.52

ESTABLISHING REGIONAL BIOENERGY CONCEPTS IN SOUTHEAST EUROPE TO SPEED-UP THE MARKET UPTAKE OF SUSTAINABLE BIOENERGY

Jens ADLER, GIZ- German Development Cooperation, Landesbüro Sachsen, GERMANY

Co-authors: D. Rutz, WIP, Munich, Germany; K. Stein, Klimaschutz- und Energieagentur Baden-Württemberg, Karlsruhe, Germany; M. Höher, Austrian Energy Agency, Vienna, Austria; M. Krizmanić, Regional Energy Agency of North-West, Zagreb, Croatia; N. Markovska, International Centre for Sustainable Development of Energy, Water and Environment Systems, Republic of Macedonia; D.-A. Cosnita, Green Energy Agency, Romania; N. Krajnc, Standing Conference of Towns and Municipalities, Republic of Serbia; M. Gluscevic, Slovenian Forestry Institute, Slovenia Republic

4AV.1.54

WELL TO WHEEL ENERGY ANALYSIS OF BIOMASS PELLETS MADE FROM AGRO WASTE TO GENERATE 'VILLAGE LEVEL ENTREPRENEURSHIP' IN INDIA

Miheer VAIDYA, Shree Ganesh Press-N-Coat, Non Conventional Energy Dpt., INDIA
Co-authors: R. Vaidya, Shree Ganesh Press-n-Coat Pvt. Ltd, Aurangabad, India; S. Vaidya, MIT College of Engineering, Aurangabad, India

4AV.1.55

VALUE REFLECTIVE DESIGN SPACE, AN APPROACH FOR INCORPORATING SUSTAINABILITY IN EARLY STAGES OF BIOREFINERY DESIGN

Mar PALMEROS PARADA, Delft University of Technology, Biotechnology Dpt., THE NETHERLANDS

Co-authors: L. Asveld, P. Ossewijer, J.A. Posada Duque, TU Delft, Delft, The Netherlands

4AV.1.56

ENVIRONMENTAL EDUCATION RELATED TO MUNICIPAL SOLID WASTE AT ABC REGION (BRAZIL)

H. V. MARCELO, Universidade Federal da Integração Latino-Americana, BRAZIL

Co-authors: J.T.C.L. Toneli, G. Martins, G.C. Antonio, UFABC, Santo André, Brazil

4AV.1.57

IP STRATEGIES IN THE GLOBAL BIO-BASED MARKETPLACE

Deborah STERLING, Sterne, Kessler, Goldstein & Fox, USA

Co-author: J. Frueauf, Sterne, Kessler, Goldstein & Fox, Washington D.C., USA

4AV.1.58

CO-GASIFICATION OF BLACK LIQUOR AND PYROLYSIS LIQUIDS FOR BIOFUEL PRODUCTION - EVALUATION OF ECONOMIC VIABILITY FROM A NATIONAL SYSTEMS PERSPECTIVE

Jonas ZETTERHOLM, Luleå University of Technology, Energy Science/Energy Engineering Dpt., SWEDEN

Co-authors: E. Wetterlund, J. Lundgren, Luleå University of Technology, Sweden; K Petterson, SP Technical Research Institute of Sweden, Gothenburg, Sweden

4AV.1.63

NEW AND EMERGING TRENDS IN FLOCCULANTS FROM CELLULOSIC BIOMASS IN A COLOMBIAN DISTRICT.

Oscar MEDINA, Universidad Pedagógica Y Tecnológica de Colombia, Chemistry Dpt., COLOMBIA

Co-authors: L.M. Moreno, Universidad Pedagógica Y Tecnológica de Colombia, Tunja, Colombia

4AV.1.65

JATROPHA CURCAS PRODUCTION COST ANALYSIS AND SUSTAINABILITY IN EGYPT

Eleni KOUKOUNA, Agricultural University of Athens, Crop Science Dpt., GREECE

Co-authors: G. Kosmadakis, E.S. Ragkousi, M.A. Stoupas, N. Robolakis, E.G. Papazoglou, Agricultural University of Athens, Greece

4AV.1.66

A ROADMAP FOR POPLAR AND WILLOW TO PROVIDE ENVIRONMENTAL SERVICES AND PRODUCE RENEWABLE FUELS IN THE UNITED STATES

Leslie BOBY, Southern Regional Extension Forestry, College of Agriculture and Environmental Sciences, USA

Co-authors: P. Townsend, N. Haider, Washington State University, Seattle, WA, USA; T. Miller, City of Springfield, Springfield, OR, USA; J. Heavey, T. Volk, Syracuse University, Syracuse, NY, USA

4AV.1.67

MARKET AND CARBON SEQUESTRATION IMPACTS OF WOOD-BASED BIOFUEL PRODUCTION

Ariel LISTO ARGUL, University of Maine, School of Economics Dpt., USA

Co-authors: A.A. Listo, A.J. Daigneault, University of Maine, Orono, Usa

13:30 - 17:00

PARALLEL EVENT

Bioenergy - from Research to Market Deployment in a European Context

15:00 - 15:15

BREAK

15:15 - 16:45

ORAL SESSION 1AO.4

Integrated Biomass Production for Energy Purposes

ROOM: K21

CHAIRPERSONS:

Göran BERNDES, Chalmers University of Technology, SWEDEN

Floor VAN DER HILST, Utrecht University, THE NETHERLANDS

1AO.4.1

A NUTRIENT REUSE APPROACH FOR IMPROVED BIOMASS YIELDS, WATER QUALITY AND ECONOMIC

Cristina NEGRI, Argonne National Laboratory, Energy Systems Dpt., USA

Co-authors: C. Zumpf, P. Campbell, J. Cacho, Argonne National Laboratory, USA; H. Ssegane, The Climate Corporation, St. Louis, USA; T. Volk, J. Heavey, State University of New York, New York, USA

1AO.4.2

LOCALLY PRODUCED BIOENERGY CAN REPLACE 5-13% OF DANISH ENERGY CONSUMPTION IN 2020 WITHOUT INTRODUCTION OF ILUC

Søren LARSEN, Danish Energy Association, DENMARK

Co-authors: N. Bentsen, C. Felby, University of Copenhagen, Frederiksberg C, Denmark; T. Dalgaard, U. Jorgensen, J. Olesen, Aarhus University, Tjele, Denmark

1AO.4.3

OPPORTUNITIES FOR A SUSTAINABLE AND DIVERSE PRODUCTION OF RENEWABLE RESOURCES CROPS

Michael GRIEB, Technology and Support Centre (TFZ), Renewable Resources Crops and Material Cycles, GERMANY

1AO.4.4

BIOMASS RESIDUES AS ELECTRICITY GENERATION SOURCE IN LOW HDI REGIONS OF BRAZIL

Alessandro SANCHES-PEREIRA, University of São Paulo, Institute of Energy and Environment, BRAZIL

Co-author: S. Teixeira Coelho, University of São Paulo, Brazil

1AO.4.5

GRASS BIOMASS AS BIOFUEL FEEDSTOCK-ENVIRONMENTAL AND ECONOMIC SUSTAINABILITY

Lovisa BJÖRNSSON, Lund University, Environmental and Energy Systems Studies Dpt., SWEDEN

Co-authors: M. Lantz, Lund University, Sweden; T. Prade, Swedish University of Agricultural Sciences, Alnarp, Sweden

15:15 - 16:45

ORAL SESSION 2AO.5

New Modelling Approaches and Emission Reduction

ROOM: K2

CHAIRPERSONS:

Timothée NOCQUET, Leroux & Lotz Technologies, FRANCE

Christoffer BOMAN, Umeå University, SWEDEN

2AO.5.1

DEVELOPMENT AND VALIDATION OF A COMBINED 1D-FUEL-BED- AND 3D-CFD-MODEL FOR THE SIMULATION OF MOVING GRATE BOILERS

Gabriel BARROSO, Lucerne University of Applied Sciences, Thermal Energy Systems and Process Engineering Dpt., SWITZERLAND

Co-authors: S. Roth, Lucerne University of Applied Sciences, Horw, Switzerland; T. Nussbaumer, Lucerne University of Applied Sciences, Horw and Verenum, Zurich, Switzerland

2AO.5.2

NEW CFD BASED MODEL FOR THE DESIGN AND OPTIMISATION OF POROUS BURNERS FOR BIOMASS COMBUSTION PLANTS

Gerold THEK, Bios Bioenergiesysteme, R&D Dpt., AUSTRIA

Co-authors: G. Knauss, F. Biedermann, L. Obernberger, BIOS Bioenergiesysteme, Graz, Austria

2AO.5.3

A THEORETICAL AND EXPERIMENTAL STUDY OF THE FORMATION OF AROMATIC HYDROCARBONS (BTX/PAH) AS SOOT PRECURSORS FROM BIOMASS PYROLYSIS PRODUCTS

Ali SHIEHNEJAD-HESAR, Bioenergy 2020+, AUSTRIA

Co-authors: H. Bahramian, A. Shiehnejadhesar, R. Mehrabian, P. Sommersacher, Bioenergy2020+, Graz, Austria; A. Anca-Couce, C. Hochenauer, R. Scharler, Institute of Thermal Engineering, Graz University of Technology, Austria

2AO.5.4

REDUCTION OF PARTICLE EMISSIONS FROM WOOD COMBUSTION EXHAUST GASES WITH HIGH PARTICLE NUMBER AND MASS CONCENTRATIONS

Andrei BOLOGA, Karlsruhe Institute of Technology, Institute for Technical Chemistry, GERMANY

Co-authors: M. Ecker, HDG Bavaria, Massing, Germany; H.-P. Rheinheimer, CCA Carola Clean Air, Eggenstein-Leopoldshafen, Germany; H.-R. Paur, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany

2AO.5.5

EXPERIMENTAL STUDY ON THE BIOMASS-BIOMASS CO-COMBUSTION FOR REDUCING NOX IN A FLUIDIZED-BED COMBUSTOR: A COMPARISON BETWEEN THE CO-FIRING TECHNIQUES

Vladimir KUPRIANOV, Thammasat University, Sirindhorn International Institute of Technology, THAILAND

Co-author: P. Ninduangdee, Phetchaburi Rajabhat University, Thailand

15:15 - 16:45

ORAL SESSION 3AO.6

Direct Liquefaction of Biomass in Hot Compressed Water and Hydrogenation of Products

ROOM: K1

CHAIRPERSONS:

Frederik RONSSE, Ghent University, BELGIUM

Johannes NEUMANN, Fraunhofer-Institut UMSICHT, GERMANY

3AO.6.1

SLURRY HYDROCRACKING FOR UPGRADING OF LIGNOCELLULOSIC BIOMASS TO TRANSPORTATION FUELS IN EXISTING REFINERIES

Olov ÖHRMAN, SP Energy Technology Center, SWEDEN

Co-authors: F. Weiland, H. Hedman, M. Gullberg, SP Energy Technology Center, Piteå, Sweden; C. Hulteberg, SunCarbon, Tyngelsjö, Sweden

3AO.6.2

HYDROTHERMAL LIQUEFACTION OF RAW AND COMPONENTS-EXTRACTED MICROALGAE WITH ASSIST OF PULSED ELECTRIC FIELD PRETREATMENT

Bingfeng GUO, Karlsruhe Institute of Technology, Institute for Catalysis Research and Technology, GERMANY

Co-authors: A. Silve, C. Gusbeth, W. Frey, U. Hornung, N. Dahmen, Karlsruhe Institute of Technology, Germany

3AO.6.3

H₂CAP - HYDROGEN ASSISTED CATALYTIC BIOMASS PYROLYSIS FOR GREEN FUELS

Martin HØJ, Technical University of Denmark, Chemical and Biochemical Engineering Dpt., DENMARK

Co-authors: M. Zingler Stummann, P. Arendt Jensen, A. Degn Jensen, DTU Chemical Engineering, Kgs. Lyngby, Denmark; J. Gabrielsen, Haldor Topsøe, Kgs. Lyngby, Denmark

3AO.6.4

HYDRODEOXYGENATION OF PRE-TREATED BLACK LIQUOR ON A BIMETALLIC CATALYST: EVALUATION OF CATALYST PERFORMANCE

Christin ANACKER, Leibniz Institute for Catalysis at the University of Rostock, GERMANY

Co-authors: C. Anacke, U. Armbruster, A. Martin, Leibniz Institute for Catalysis at the University of Rostock, Rostock, Germany

3AO.6.5

ALTERNATIVES TO ZEOLITES FOR CATALYTIC FAST PYROLYSIS OF BIOMASS: MOLYBDENUM CARBIDE AND PT/TIO₂

Joshua SCHAIDLE, National Renewable Energy Laboratory, National Bioenergy Center, USA

Co-authors: C. Mukarakate, M. Xu, M. Griffin, C. Nash, E. White, K. Lisa, M. Nimlos, D. Ruddy, National Renewable Energy Laboratory, Golden, USA

15:15 - 16:45

VISUAL PRESENTATIONS 4AV.2

Sustainability Assessment of Biomass Systems and Environmental Impacts of Bioenergy

ROOM: Poster Area

CHAIRPERSONS:

Rocio DIAZ-CHAVEZ, Imperial College London, UNITED KINGDOM

Patricia THORNLEY, SUPERGEN Bioenergy Hub, UNITED KINGDOM

4AV.2.1

SUSTAINABLE RAW MATERIAL SUPPLY FOR BIOMETHANE - CROSS-SECTORAL SUSTAINABILITY CRITERIA & INDICATORS DISCUSSION

Diego PIEDRA-GARCIA, FNR - Agency for Renewable Resources, European and International Cooperation Dpt., GERMANY

Co-authors: A. Kovacs, EBA - European Biogas Association, Brussels, Belgium; S. Majer, DBFZ - German Biomass Research Centre, Leipzig, Germany; S. Proietti, ISINNOVA - Institute of Studies for the Integration of Systems, Rome, Italy

4AV.2.8

LIFE CYCLE ASSESSMENT OF ENVIRONMENTAL IMPACT FOR CORNSTALK BRIQUETTE FUEL USED IN GASIFICATION AND COMBUSTION SYSTEM

Zhiwei WANG, Henan Academy of Sciences, Energy Research Institute Co., P.R. CHINA

4AV.2.2

CERTIFICATION OF BIOMETHANE AS TRANSPORT FUEL - IMPLEMENTATION OF GHG EMISSION SAVINGS FORM THE USE OF MANURE FOR BIOGAS PRODUCTION

Katja OEHMICHEN, DBFZ-German Biomass Research Centre, Bioenergy Systems Dpt., GERMANY

Co-authors: S. Majer, DBFZ-German Biomass Research Centre, Leipzig, Germany; D. Thrän, UFZ, Leipzig, Germany

4AV.2.9

LIFE CYCLE APPROACH FOR ENERGY AND ENVIRONMENTAL ANALYSIS OF BIOMASS AND COAL CO-FIRING IN DIFFERENT LARGE SCALE CO-GENERATION UNITS

Jaroslawn ZUWALA, Institute for Chemical Processing of Coal, POLAND

4AV.2.13

REAL SCALE BIOMASS BURNING OF MISCANTHUS GROWN ON CONTAMINATED SITE

Dorothee DEWAELE, Université du Littoral Côte d'Opale, CCM Dpt., FRANCE

Co-authors: F. Cazier, P. Genevray, CCM - ULCO, Dunkerque, France; E. Therssen, PC2A - USTL, Villeneuve d'Ascq, France; J. Blarel, Chambre d'agriculture, Lille, France; F. Douay, ISA, Lille, France

4AV.2.14

DEVELOPMENT OF SOIL AMENDMENTS PRODUCED FROM MUNICIPAL ORGANIC WASTE DIGESTATE DURING A TWO-YEAR FIELD STUDY

Christine KNOOP, Brandenburg University of Technology, Geopedology and Landscape Development, GERMANY

Co-authors: N. Dietrich, M. Heinrich, T. Raab, Brandenburg University of Technology, Cottbus, Germany; C. Dornack, Technische Universität, Dresden, Germany

4AV.2.16

COMPARISON OF SWEET SORGHUM, GIANT REED AND POPLAR AS SOIL NITRATE SCAVENGERS WITH CATTLE MANURE APPLICATION

Enrico CEOTTO, CREA- Council for Agricultural Research and Economics, ITALY
Co-authors: F. Castelli, CREA, Bovolone, Italy; R. Marchetti, CREA, Modena, Italy

4AV.2.17

FOREST BIOMASS IN CANADA: FROM FEEDSTOCK AVAILABILITY TO CLIMATE CHANGE MITIGATION POTENTIAL

Jérôme LAGANIÈRE, Natural Resources Canada, Canadian Forest Service, CANADA
Co-authors: D. Paré, P. Bernier, N. Mansuy, J. Barrette, Natural Resources Canada, Québec City, Canada; E. Thiffault, Université Laval, Québec City, Canada

4AV.2.18

ENVIRONMENTAL AND ECONOMIC PERFORMANCES OF CEREAL STRAW END-PRACTICES

Luigi PARI, CREA- Council for Agricultural Research and Economics, Unità di Ricerca per l'Ingegneria Agraria - CREA-ING, ITALY
Co-authors: N. Palmieri, M.B. Forleo, University of Molise, Campobasso, Italy; G. Giannoccaro, University of Bari, Italy; A. Suardi, Consiglio per la Ricerca in Agricoltura e l'Analisi dell'Economia Agraria, Roma, Italy

4AV.2.19

EFFECT OF BIOCHAR ON WATER RETENTION IN SOIL, A COMPARISON BETWEEN TWO FORMS: POWDER AND PELLET

Pietro BARTOCCI, University of Perugia, Biomass Research Centre, ITALY
Co-authors: F.P. Vaccari, S. Baronti, IBIMET, Firenze, Italy; M. Valagussa, MAC, Como, Italy; A. Pozzi, ICHAR, Firenze, Italy; F. Liberti, G. Bidini, F. Fantozzi, University of Perugia, Italy

4AV.2.20

EFFECT OF WOOD PRE-TREATMENT ON OPERATING CONDITIONS, GASEOUS AND PARTICULATE EMISSIONS OF A PELLET STOVE - FIRST ANALYTICAL CAMPAIGN

Paul GENEVRAY, Université du Littoral Côte d'Opale, CCM Dpt., FRANCE
Co-authors: G. Schmidt, G. Leysens, G. Trouvé, V. Tschamber, C. Schönnenbeck, GRE Laboratory, Mulhouse, France; F. Cazier, D. Dewaele, C. Vandenbilcke, CCM Laboratory, Dunkerque, France; S. Labbé, Lorflam, Caudan, France; F. Balay, Lorflam/ CCM Laboratory, Caudan, France; Y. Denance, E. Faivre, Inovalp, Susville, France; C. Le-Dreff, CSTB Laboratory, Nantes, France; N. Adam, Agrivalor, Hirsingue, France

4AV.2.22

ASSESSING POSSIBLE EMISSION REDUCTIONS IN THE ENERGY MIX: UNCONVENTIONAL GAS OR MISCANTHUS BIOMASS?

Iosif GYPARIS, University of Piraeus Research Center, GREECE
Co-author: D. Sidiaras, University of Piraeus Research Center, Piraeus, Greece

4AV.2.23

ENVIRONMENTAL PRELIMINARY RESULTS USING LCA METHODOLOGY OF A BIOREFINERY FED WITH OLIVE PRUNING IN ANDALUSIA

Carmen LAGO, CIEMAT, Energy Dpt., SPAIN
Co-authors: I. Herrera, Y. Lechón, P. Manzanares, A.I. Susmozas, CIEMAT, Madrid, Spain; E. Ruíz, Universidad de Jaén, Spain

4AV.2.24

FRAMEWORK FOR BIOENERGY IMPLEMENTATION IN MUNICIPAL BUILDINGS

Clara VALENTE, Ostfold Research, NORWAY

Co-authors: E. Soldal, F. Moltu Johnsen, H. Lerche Raadal, O.J. Hanssen, Ostfold Research, Kråkerøy, Norway; F. Verdú, Geodata, Oslo, Norway

4AV.2.26

ASSESSMENT OF BIOGAS PRODUCTION PATHWAYS: APPLICATION TO PORTUGAL

Patrícia BAPTISTA, IST-ID, Mechanical Engineering, PORTUGAL

Co-authors: M. Lopes, A. Moreira, IN+, Universidade de Lisboa, Lisbon, Portugal; E. Duarte, ISA, Universidade de Lisboa, Lisbon, Portugal

4AV.2.27

FERTILIZERS AND SOIL IMPROVING PRODUCTS MADE OF BIOWASTE DIGESTATES: RESULTS FROM POT EXPERIMENTS WITH AVENA SATIVA L. AND BRASSICA NAPUS L.

Christina-Luise ROSS, Institut für Agrar- und Stadtökologische Projekte, Biogenic Resources Dpt., GERMANY

Co-authors: K. Sensel-Gunke, V. Wilken, Institute of Agricultural and Urban Ecological Projects, Berlin, Germany; U. Herbst, Humboldt University Berlin, Berlin, Germany

4AV.2.28

BIO-CLC, A NOVEL APPROACH FOR ATTAINING NEGATIVE EMISSIONS OF CO₂ AT REDUCED COST

Anders LYNGFELT, Chalmers University of Technology, Energy and Environment Dept., SWEDEN

Co-author: M. Nieminen, VTT, Espoo, Finland

4AV.2.29

MONITORING OF FUGITIVE METHANE EMISSIONS FROM BIOGAS PLANTS

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

Co-author: J. Liebetrau, DBFZ-German Biomass Research Centre, Leipzig, Germany

4AV.2.30

ENVIRONMENTAL ASSESSMENT OF BLACK LIQUOR CO-GASIFICATION WITH BY-PRODUCT BIOMASS RESOURCES

Johanna OLOFSSON, Lund University, Environmental and Energy Systems Studies Dpt., SWEDEN

Co-authors: L. Carvalho, J. Lundgren, E. Furusjö, E. Wetterlund, Luleå University of Technology, Sweden; P. Börjesson, Lund University, Sweden

4AV.2.33

WASTE GENERATED FROM BIOMASS COMBUSTION: WOOD ASH REUSE AS AN ADDITIVE IN COMPOSTING

Carla ASQUER, Sardegna Ricerche, Biomass and Biofuel Laboratory, ITALY

Co-authors: G. Cappai, G. De Gioannis, A. Muntoni, M. Piredda, D. Spiga, University of Cagliari, Department of Civil and Environmental Engineering and Architecture, Italy

4AV.2.34

POTENTIAL CARBON DIOXIDE SEQUESTRATION USING BIOMASS COMBUSTION ASH

Carla ASQUER, Sardegna Ricerche, Biomass and Biofuel Laboratory, ITALY

Co-authors: G. Ca, G. De Gioannis, A. Muntoni, A. Nieddu, M. Piredda, University of Cagliari, Department of Civil and Environmental Engineering and Architecture, Cagliari, Italy

CONFERENCE PROGRAMME

MONDAY, 12 JUNE 2017

4AV.2.37

NITROGEN ASSESSMENT IN SMALL SCALE BIOMASS HEATING SYSTEMS

Monika ENIGL, Bioenergy 2020+, AUSTRIA

Co-authors: C. Strasser, C. Schmidl, Bioenergy 2020+, Wieselburg, Austria; E. Hochbichler, University of Natural Resources and Life Sciences, Vienna, Austria

4AV.2.39

CLIMATE PERFORMANCE OF LIGNO-CELLULOSE-BASED BIOFUELS

Nathalie BECKER, Lund University, Technology and Society Dpt., SWEDEN

Co-authors: P. Börjesson, L. Björnsson, Lund University, Sweden

4AV.2.40

AN ADVANCED LCA-MODEL TARGETED TO BIOENERGY SYSTEMS AND TECHNOLOGIES: RECENT DEVELOPMENTS OF THE EASETECH LCA-MODEL

Concetta LODATO, Technical University of Denmark, Environmental Engineering Dpt., DENMARK

Co-authors: D. Tonini, A. Damgaard, T. F. Astrup, Department of Environmental Engineering, Technical University of Denmark, Lyngby, Denmark

4AV.2.45

BIOMASS ACCIDENT INVESTIGATIONS - MISSED OPPORTUNITIES FOR LEARNING AND ACCIDENT PREVENTION

Frank H. HEDLUND, COWI, DENMARK

16:45 - 17:00

BREAK

17:00 - 18:30

ORAL SESSION 1AO.7

Biomass Supply Logistics

ROOM: K21

CHAIRPERSONS:

Tapio RANTA, Lappeenranta University of Technology, FINLAND

Wolter ELBERSEN, Wageningen Research, THE NETHERLANDS

1AO.7.1

LOGISTICAL CASE STUDY FOR THE ARAGON REGION USING THE LOCAGISTICS TOOL

Bert ANNEVELINK, Wageningen Food & Biobased Research, Biorefinery & Sustainable Value Chains Dpt., THE NETHERLANDS

Co-authors: E. Annevelink, Wageningen Food & Biobased Research, Wageningen, The Netherlands; D. Garcia Galindo, S. Espatolero, CIRCE Foundation, Zaragoza, Spain; I. Staritsky, Wageningen Environmental Research (Alterra), Wageningen, The Netherlands

1AO.7.2

SIMULATION-BASED ASSESSMENT OF THE PROPERTIES AND PERFORMANCE OF A BIOMASS TERMINAL

Olli-Jussi KORPINEN, Lappeenranta University of Technology, Laboratory of Bioenergy, FINLAND

Co-authors: M. Aalto, T. Ranta, Lappeenranta University of Technology, Mikkeli, Finland; M. Virkkunen, J. Raitila, VTT Technical Research Centre of Finland, Jyväskylä, Finland

1AO.7.3

THE ENERGETIC RECOVER OF BIOMASS FROM RIVER MAINTENANCE: THE REBAF PROJECT

Simone PEDRAZZI, University of Modena and Reggio Emilia, Department of Engineering "Enzo Ferrari" - Bio-Energy Efficiency Laboratory (BEELAB), ITALY
Co-authors: G. Allesina, N. Morselli, M. Puglia, L. Barbieri, I. Lancellotti, P. Tartarini, University of Modena and Reggio Emilia, Modena, Italy; E. Ceotto, CREA-CIN, Bologna, Italy; L. Giorgini, University of Bologna, Italy; A. Malcevski, University of Parma, Italy; C. Pederzini, Campogalliano Municipality, Modena, Italy

1AO.7.4

ANALYSIS OF A TRANSFORMATION PROCESS OF VINEYARD PRUNING INTO CHIPS BY A MICRO PLANT

Carlo BISAGLIA, CREA-ING, ITALY
Co-author: E. Romano, CREA-ING, Treviglio, Italy

1AO.7.5

IDENTIFICATION OF ENERGY HUBS FOR THE EXPLOITATION OF RESIDUAL BIOMASS IN AN AREA OF WESTERN SICILY

Salvatore LA BELLA, University of Palermo, Agricultural and Forest Sciences Dpt., ITALY
Co-authors: S. Orlando, C. Greco, T. Tuttolomondo, C. Leto, I. Cammalleri, University of Palermo, Italy

17:00 - 18:30

ORAL SESSION 2AO.8

Novel Technologies and Surface Chemistry in Large Utilities

ROOM: K2

CHAIRPERSONS:

Lasse ROSENDAHL, Aalborg University, DENMARK
Vladimir KUPRIANOV, Thammasat University, THAILAND

2AO.8.1

LOW-TEMPERATURE CORROSION IN BIOMASS-FIRED COMBUSTION PLANTS - ONLINE MEASUREMENT OF CORROSION RATES, ACID DEW POINTS AND DELIQUESCENT CORROSION

Thomas BRUNNER, Bios Bioenergiesysteme, AUSTRIA
Co-authors: E. Reisenhofer, I. Obernberger, W. Kanzian, M. Forstinger, BIOS Bioenergiesysteme, Graz, Austria

2AO.8.2

INVESTIGATIONS ON THE FORMATION AND CLASSIFICATION OF SLAGS FROM COMBUSTION CHAMBERS OF BMHP PLANTS

Jürgen REICHELT, IBR, GERMANY
Co-authors: G. Pfrang-Stotz, Karlsruhe Institute of Technology - ITC, Germany; B. Bergfeldt, Karlsruhe Institute of Technology -ITC, Germany

2AO.8.3

ASSESSMENT OF ASH AGGLOMERATION AND FOULING IN COMBUSTION BY THEORETICAL AND EXPERIMENTAL BIOMASS FUELS CHARACTERIZATION

Lucio DE FUSCO, Université Catholique de Louvain, iMMC Dpt., BELGIUM

2AO.8.4

CHEMICAL-LOOPING COMBUSTION OF BIOMASS IN A 100 KW PILOT

Carl LINDERHOLM, Chalmers University of Technology Göteborg, Energy and Environment Dpt., SWEDEN

Co-authors: A. Lyngfelt, M. Rydén, M. Schmitz, Chalmers University of Technology, Göteborg, Sweden

2AO.8.5

BIOMASS CO-FIRING STUDIES IN PILOT SCALE COMBUSTION SYSTEMS: EFFECTS OF BIOMASS CO-FIRING METHODS TO IN-FURNACE NOX REDUCTION

Won YANG, Korea Institute of Industrial Technology, Thermochemical Energy System R&D Group, REPUBLIC OF KOREA

Co-authors: T. Chae, J. Lee, Y. Lee, B. Kang, U. Lee, Korea Institute of Industrial Technology, Cheonan-si, Chungchungnam-do, Republic of Korea; C. Ryu, Sungkyunkwan University, Suwon, Kyunggi-do, Republic of Korea

17:00 - 18:30

ORAL SESSION 3AO.9

Biorefinery Products

ROOM: K1

CHAIRPERSONS:

René VAN REE, Wageningen University, THE NETHERLANDS

Maria GEORGIADOU, European Commission, DG Research, BELGIUM

3AO.9.1

ALKANE PRODUCTION FROM BIOMASS: A CHEMOCATALYTIC LIQUID PHASE CELLULOSE-TO-NAPHTHA PROCESS

Aron DENEYER, KU Leuven, Center for Surface Chemistry and Catalysis, BELGIUM

Co-authors: M. Dusselier, B. Sels, KU Leuven, Heverlee, Belgium

3AO.9.2

MAKING THE BRIDGE BETWEEN BIOMASS AND HYDROCARBON IN A STANDARD REFINERY

Marcelo PEREIRA, Universidade Federal do Rio de Janeiro, Chemistry Dpt., BRAZIL

Co-authors: J. Pinto, L. Soter, Universidade Federal do Rio de Janeiro, Brazil

3AO.9.3

CARBOHYDRATES AND FURANS FROM SEAWEEDES FOR FUELS AND CHEMICALS

Wouter HUIJGEN, Energy Research Centre of the Netherlands, Biomass & Energy Efficiency Dpt., THE NETHERLANDS

Co-authors: G. van Hees, A.T. Smit, J.W. van Hal, Energy Research Centre of the Netherlands, Petten, The Netherlands

3AO.9.4

FISCHER-TROPSCH SYNTHESIS: EFFECTS OF FEEDSTOCK LOAD CHANGES REGARDING PRODUCT QUALITY AND CATALYST ATTRITION

Hannes GRUBER, TU Wien, Institute of Chemical, Environmental & Biological Engineering, AUSTRIA

Co-authors: P. Groß, H. Hofbauer, C. Aichernig, TU Wien, Vienna, Austria; R. Rauch, Bioenergy 2020+, Güssing, Austria; R. Zweiler, J. Niel, D. Wahringner, A. Reichhold, TU Wien, Wien, Austria; G. Weber, Bioenergy 2020+ GmbH, Güssing, Austria; J. Loipersböck, 2020+ GmbH, Güssing, Austria

3AO.9.5

PRODUCTION OF FUEL ETHANOL AND HIGHER ALCOHOLS FROM BIOMASS RESIDUE

Matthias BINDER, Bioenergy 2020+, AUSTRIA

Co-authors: M. Summers, C. Liao, M. Hoffman, M. Hart, West Biofuels, Woodland, CA, Usa; R. Seiser, U. Neimann, R. Cattolica, UC San Diego, La Jolla, CA, Usa; R. Rauch, Bioenergy 2020+, Guessing, Austria

17:00 - 18:30

VISUAL PRESENTATIONS 3AV.3

Fundamental Investigation of Liquefaction Processes

ROOM: Poster Area

CHAIRPERSONS:

Wim VAN SWAAIJ, University of Twente, THE NETHERLANDS

Jean-Michel LAVOIE, Université de Sherbrooke, CANADA

Andreas APFELBACHER, Fraunhofer-Institut UMSICHT, GERMANY

3AV.3.1

PRODUCING SINGLE PHASE FAST PYROLYSIS CONDENSATES FROM STRAW BY STAGED CONDENSATION

Stefan CONRAD, Fraunhofer-Institut UMSICHT, Biorefinery and Biofuels Dpt., GERMANY

Co-authors: T. Schulzke, C. Blajin, Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT, Oberhausen, Germany

3AV.3.2

A COMBINED PROCESS OF ACID EXTRACTION AND PYROLYSIS OF MANURE TO RECOVER PHOSPHORUS AND OBTAIN SOLID ADSORBENTS

Gloria GEA, University of Zaragoza, Chemical Engineering Dpt., SPAIN

Co-authors: M. Atienza-Martínez, N. Ruiz-Gómez, M. García, J. Ábrego, Aragón Institute for Engineering Research (I3A), Universidad de Zaragoza, Zaragoza, SPAIN; I. Fonts, Centro Universitario de la Defensa, Zaragoza, SPAIN

3AV.3.6

ENHANCING PYROLYSIS OILS' THERMAL STABILITY BY SUPERCRITICAL CARBON DIOXIDE AS A SOLVENT

Clarissa BAEHR, Karlsruhe Institute of Technology, Institute of Catalysis Research and Technology, GERMANY

3AV.3.15

CHARACTERIZATION OF LIGHT AND HEAVY PHASE OF PYROLYSIS-OILS FROM DISTINCT BIOMASS FOR FURTHER UPGRADING REACTIONS

Caroline CARRIEL SCHMITT, Karlsruhe Institute of Technology, IKFT Dpt., GERMANY

Co-authors: C. Boscagli, K. Raffelt, N. Dahmen, Karlsruhe Institute of Technology IKFT, KARLSRUHE, Germany; M. Rapp, Karlsruhe Institute of Technology IMT, KARLSRUHE, Germany

3AV.3.19

PYROLYSIS AND IN-LINE REFORMING OF BIOMASS: EFFECT OF CATALYST DEACTIVATION ON HYDROGEN PRODUCTION

Laura SANTAMARIA, University of the Basque Country, Chemical Engineering Dpt., SPAIN

Co-authors: A. Arregi, G. Lopez, M. Amutio, M. Artetxe, J. Alvarez, I. Barbarias, M. Olazar, University of the Basque Country (EHU/UPV), Bilbao, Spain

3AV.3.20

EFFECT OF PROMOTER LA2O3 ON NI/AL2O3 CATALYSTS IN THE STEAM REFORMING OF VOLATILES DERIVED FROM BIOMASS PYROLYSIS

Laura SANTAMARIA, University of the Basque Country, Chemical Engineering Dpt., SPAIN

Co-authors: G. Lopez, M. Amutio, M. Artetxe, J. Alvarez, I. Barbarias, A. Arregi, M. Olazar, University of the Basque Country (EHU-UPV), Bilbao, Spain

3AV.3.21

THERMOCHEMICAL CONVERSION OF TEXTILE WASTE TO USEFUL COMMODITIES

Roozbeh KALATEH, Heriot-Watt University, School of Engineering and Physical Sciences, UNITED KINGDOM

Co-author: A. Sanna, Heriot-Watt University, Edinburgh, United Kingdom

3AV.3.24

PYROLYSIS OF DIGESTED AND NON-DIGESTED MANURE. A COMPARATIVE STUDY

Gloria GEA, University of Zaragoza, Chemical Engineering Dpt., SPAIN

Co-authors: N. Ruiz-Gómez, F. Molinés, D. Aznar, J. Ábrego, M.B. Murillo, Thermochemical Processes Group (GPT), Aragón Institute for Engineering Research (I3A), Universidad de Zaragoza, Spain

3AV.3.26

PRODUCT DISTRIBUTION AND HEAT FOR PYROLYSIS OF DRY SEWAGE SLUDGE

María ATIENZA-MARTÍNEZ, Universidad de Zaragoza, Aragón Institute for Engineering Research, SPAIN

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3AV.3.28

PY-GCXC MS FOR STUDYING THERMAL AND CATALYTIC PYROLYSIS OF BIOMASS

Linda SANDSTRÖM, RISE Bioeconomy, SP ETC, SWEDEN

Co-author: A.-C. Johansson, SP Energy Technology Center AB, Piteå, Sweden

3AV.3.30

EVALUATION OF BIOCHAR BASED PRODUCTS AS HYDROTREATING CATALYSTS FOR THE PRODUCTION OF RENEWABLE FUEL

Roelf VENTER, North West University, Chemical and Minerals Engineering Dpt., SOUTH AFRICA

Co-authors: S. Marx, C. Schabort, J.G. Booysen, North-West University, Potchefstroom, South Africa

3AV.3.32

VALUE ENHANCEMENT OF MICROALGAE UTILIZATION EMPLOYING MILD EXTRACTION AND HYDROTHERMAL TREATMENT FOR PROTEIN AND BIO-OIL PRODUCTION

Chinnathan AREEPRASERT, Kasetsart University, Mechanical Engineering Dpt., THAILAND

Co-authors: A. Kuhavichanan, J. Kaharn, Kasetsart University, Bangkok, Thailand; P. Kusolkumbot, A. Suemanotham, S. Sirisattha, Thailand Institute of Scientific and Technological Research, Pathum Thani, Thailand

3AV.3.33

MICROWAVE PYROLYSIS OF LIGNOCELLULOSIC BIOMASS IN SOLVENTS TO PRODUCE FUELS, SUGARS AND HIGH VALUE CHEMICALS

Benjamin SHEPHERD, University of Nottingham, Chemical & Environmental Engineering, UNITED KINGDOM

Co-authors: J. Robinson, E.T. Kostas, University of Nottingham, University of Nottingham, United Kingdom

3AV.3.37

RELEASE AND TRANSFORMATION OF CHLORINE AND POTASSIUM DURING PYROLYSIS OF KCL-LOADED CELLULOSE

Haibo ZHAO, Tsinghua University, Thermal Engineering Dpt., P.R. CHINA
Co-authors: Q. Song, Q. Yao, Tsinghua University, Beijing, P.R. China

3AV.3.38

TWO-STEP PYROLYSIS OF BIOMASS AS A METHOD TO ENHANCE FUEL QUALITY OF PYROLYTIC LIQUIDS

Henry PERSSON, KTH Royal Institute of Technology, Material Science and Engineering Dpt., SWEDEN
Co-authors: P. Evangelopoulos, W. Yang, KTH Royal Institute of Technology, Stockholm, Sweden

3AV.3.39

CHARACTERISATION OF THE TWIN SCREW MIXING REACTOR USED FOR FAST PYROLYSIS OF BIOMASS

Robert GRANDL, Karlsruhe Institute of Technology, IKFT Dpt., GERMANY
Co-authors: A. Funke, N. Dahmen, J. Sauer, Karlsruhe Institute of Technology - IKFT Dpt., Eggenstein-Leopoldshafen, Germany

3AV.3.42

ALTERNATIVE FUELS FROM BIOMASS AND POWER (PBTL) - A CASE STUDY ON PROCESS OPTIONS, TECHNICAL POTENTIALS, FUEL COSTS AND ECOLOGICAL PERFORMANCE

Friedemann Georg ALBRECHT, DLR - Institut für Technische Thermodynamik, GERMANY
Co-author: R.-U. Dietrich, German Aerospace Center (DLR), Stuttgart, Germany

3AV.3.45

BIOMASS PYROLYSIS: A SET OF COMPLEMENTARY ANALYTICAL METHODS AVAILABLE AT CNRS

Francis BILLAUD, CNRS-LRGP, Process Engineering (Biomass) Dpt., FRANCE
Co-authors: Y. Le Brech, A. Dufour, CNRS, Nancy, France

3AV.3.48

CHARACTERIZATION OF DE- AND REPOLYMERIZATION PRODUCTS FROM LIGNIN HYDROTHERMAL TREATMENT BY ANALYTICAL PYROLYSIS

Mads JENSEN, Aarhus University, Dpt. of Chemistry, DENMARK
Co-authors: R.B. Madsen, J.B. Becker, B.B. Iversen, M. Glasius, Department of Chemistry, Aarhus University, Denmark

3AV.3.50

EFFECTS OF SUBSTITUENTS ON THE INITIAL PYROLYSIS MECHANISM OF β -O-4 TYPE LIGNIN DIMER MODEL COMPOUNDS

Xiaoyan JIANG, North China Electric Power University, P.R. CHINA
Co-authors: Q. Lu, B. Hu, J. Liu, C.Q. Dong, North China Electric Power University, Beijing, P.R. China

3AV.3.52

REFORMING OF RAW PYROLYSIS OILS WITH A NEW CATALYST DERIVED FROM NICKEL FUNCTIONALIZATION OF A MINING RESIDUE

Nicolas ABATZOGLOU, Université de Sherbrooke, Chemical Engineering and Biotechnological Engineering Dpt., CANADA
Co-authors: J. Blanchard, A. Bali, M. Chamoumi, Université de Sherbrooke, Canada

3AV.3.58

17 YEARS OF INTERMEDIATE PYROLYSIS: A MAJOR STEP TOWARDS CHP APPLICABLE BIO-OILS

Johannes NEUMANN, Fraunhofer-Institut UMSICHT, Renewable Energy Dpt., GERMANY
Co-authors: A. Apfelbacher, N. Jäger, R. Daschner, S. Binder, A. Hornung, Fraunhofer-Institut UMSICHT, Sulzbach-Rosenberg, Germany

3AV.3.59

FAST PYROLYSIS OF PINE WOOD AT PRE-INDUSTRIAL SCALE: YIELDS AND PRODUCTS CHEMICAL-PHYSICAL CHARACTERISATION

Carla ASQUER, Sardegna Ricerche, Biomass and Biofuel Laboratory, ITALY
Co-authors: A. Pistis, C. Tugulu, E.A. Scano, Sardegna Ricerche, Cagliari, Italy; F. Floris, University of Cagliari, Cagliari, Italy

3AV.3.62

UPGRADING OF FAST PYROLYSIS BIO-OIL IN SUPERCRITICAL ALCOHOLS

Heuntae JO, Sungkyunkwan University, Mechanical Engineering Dpt., REPUBLIC OF KOREA

Co-authors: H. Prajitno, SungKyunKwan University, Jakarta, Indonesia; J. Kim, SungKyunKwan university, Suwon, Republic of Korea

3AV.3.63

ENERGY PRODUCTION FROM CHICKEN LITTER BY PYROLYSIS AND TORREFACTION

Olga LARINA, Joint Institute for High Temperatures of the Russian Academy of Sciences, RUSSIAN FEDERATION

Co-author: V. Zaichenko, Joint Institute for High Temperatures of the Russian Academy of Sciences (JIHT RAS), Moscow, Russian Federation

3AV.3.65

UP-SCALING A PROTOTYPE TOP-LIT UP-DRAFT PYROLYSIS (TLUD-PYRO) REACTOR

Sajid LATIF, University of Hohenheim, Agricultural Engineering in the Tropics and Subtropics Dpt., GERMANY

Co-authors: K. Intani, C. Fink, J. Müller, Universität Hohenheim, Stuttgart, Germany

3AV.3.66

THERMOGRAVIMETRIC ANALYSIS OF BIOMASS PYROLYSIS USING A PEAK TEMPERATURE METHOD

Teresa MARTÍ-ROSSELLÓ, University of Strathclyde, Chemical and Process Engineering Dpt., UNITED KINGDOM

Co-authors: J. Li, L. Lue, University of Strathclyde, Glasgow, United Kingdom

3AV.3.68

A SOLAR DRIVEN THERMOCHEMICAL PROCESS FOR THE PRODUCTION OF BIOFUEL

Toby GREEN, University of Leeds, School of Process and Chemical Engineering, UNITED KINGDOM

Co-authors: A. Ross, R Crook, University of Leeds, United Kingdom

19:30 - WELCOME RECEPTION



Stockholms stad

The City of Stockholm (Stockholms Stad) welcomes the EUBCE delegates and exhibitors from around the world to the Stockholm City Hall for a Reception on Monday the 12th of June 2017 at 7.00 pm.*



The Stockholm City Hall is one of Sweden's most famous buildings, and one of the capital's most visited tourist attractions. It is famous for its grand ceremonial halls and unique pieces of art and is the venue of the Nobel Prize banquet held on 10th of December each year. It also houses offices for 200 people including the Municipal Council. The exclusive atmosphere and historical setting of the Blue Hall makes it a popular venue for international award ceremonies and concerts. Ceremonies for the awarding of Doctorates and other academic degrees are also a regular feature of the Blue Hall and are much appreciated events.

* A shuttle bus will leave from Stockholmsmässan at 18:30

CONFERENCE PROGRAMME
TUESDAY, 13 JUNE 2017

TUESDAY

08:30	1BO.1 T1.5	2BO.2 T2.4	3BO.3 T3.6	5BO.4 T5.1	2BV.1 T2.1/2.2/ 2.3	EXHIBITION
10:30	Break					
10:45	Plenary Session 1BP.1					
	Plenary Session 2BP.2					
	Plenary Session 3BP.3					
12:30	Lunch Break					
13:30	1BO.5 T1.5	2BO.6 T2.4	3BO.7 T3.6	1BO.8 16.5	5BV.2 T5.1/5.2	
15:00	Break					
15:15	4BO.9 T4.1	2BO.10 T2.5	3BO.11 T3.2	1BO.12 16.4	3BV.3 T3.6	
16:45	Break					
17:00	4BO.13 T4.2	2BO.14 T2.5	3BO.15 T3.2	1BO.16 16.3	3BV.4 T3.7	
18:30						

1 Biomass Resources T1.5 Municipal and industrial wastes
2 Biomass Conversion Technologies for Heating, Cooling and Electricity T2.1 Production and supply of solid biofuels T2.2 Biomass and bioliquids combustion for small and medium scale applications T2.3 Biomass combustion in large utilities T2.4 Gasification for power, CHP and polygeneration T2.5 Gasification for synthesis gas production
3 Biomass Conversion Technologies for fuels, chemicals and materials T3.2 Pyrolysis and other biomass liquefaction technologies T3.6 Biorefineries T3.7 Production and application of biobased chemicals
4 Biomass Policies, Markets and Sustainability T4.1 Market implementation, investments & financing T4.2 Sustainability, certification and standards
I Industry Sessions 6.3 Power & Heat processes and systems 6.4 Biochemical Conversion 6.5 Policy
5 Bioenergy in integrated energy systems T5.1 Integration of bioenergy with other renewable and conventional energy sources, combination of energetic and material use T5.2 Bioenergy and grid balancing

08:30 - 10:00

ORAL SESSION 1BO.1

Innovations in Municipal and Industrial Biowaste Feeding a Biobased and Circular Economy

ROOM: K21

CHAIRPERSONS:

Silvia MALTAGLIATI, ARPAT-Environmental Protection Agency of Tuscany
seconded at the European Commission DG Research, BELGIUM

Peter KUIKMAN, Alterra Wageningen UR, THE NETHERLANDS

1BO.1.1

THE BIO2ENERGY PROJECT: BIOENERGY, BIOFUELS AND BIOPRODUCTS FROM MUNICIPAL SOLID WASTE AND SEWAGE SLUDGE

Francesco BALDI, PIN S.c.r.l., ITALY

Co-authors: I. Pecorini, University of Florence, Department of Industrial Engineering, Italy; D. Bacchi, E. Albini, PIN S.c.r.l. - Servizi didattici e scientifici per l'Università di Firenze, Italy; P. Rossi, P. Paoli, E.A. Carnevale, G. Ferrara, DIEF - Department of Industrial Engineering, University of Florence, Italy; L. Ferrari, DESTEC - Department of Energy, Systems, Territory and Construction Engineering, University of Pisa, Italy; M. Peruzzini, Italian National Council for Research, ICCOM, Florence, Italy; L. Lombardi, University Niccolò Cusano, Rome, Italy

1BO.1.2

BIOPLASTICS AND BIOFUELS FROM URBAN ORGANIC WASTES

Paolo PAVAN, University Cà Foscari of Venice, Environmental Sciences Dpt., ITALY

Co-authors: M. Majone, University of Rome La Sapienza, Italy; D. Bolzonella, University of Verona; F. Fatone, Polytechnical University of Marche Region, Ancona, Italy; F. Cecchi, Innoven srl, Verona, Italy

1BO.1.3

ENHANCED FATTY ACID GENERATION FROM MEAT PROCESSING DISSOLVED AIR FLOTATION SLUDGE USING A QUASI-HOMOGENOUS CATALYST

Zhifa SUN, Otago University, Physics Dpt., NEW ZEALAND

Co-authors: O. Okoro, J. Birch, Otago University, Dunedin, New Zealand

1BO.1.4

EVALUATION OF INDUSTRIAL PRUNUS CERASUS LIQUOR WASTE AS A SOURCE OF ADDED VALUE CHEMICAL PRODUCTS AND ENERGY

Ana Luisa FERNANDO, Universidade Nova de Lisboa, Ciências e Tecnologia Biomassa Dpt., PORTUGAL

Co-authors: E. Mauricio, CBIOS/Universidade Lusofona; Elisa Camara, Lisboa, Portugal; M.P. Duarte, METRICs/DCTB/FCT/UNL, Lisboa, Portugal; C. Rosado, CBIOS/Universidade Lusofona, Lisboa, Portugal; A.M. Diaz-Lanza, Universidad de Alcalá, Madrid, Spain

1BO.1.5

MAPPING ORGANIC WASTE POTENTIALS FROM HOUSEHOLDS

Lea BOEHME, Institute for Sanitary Engineering, Water Quality and Solid Waste Management, SKA Dpt., GERMANY

Co-authors: A. Fritzsche, P. Pilsl, D. Clauss, M. Kranert, University of Stuttgart, Germany

08:30 - 10:00

ORAL SESSION 2BO.2

Gasification Integrated Systems

ROOM: K2

CHAIRPERSONS:

Wiebren DE JONG, Delft University of Technology, THE NETHERLANDS

Matthias KUBA, Bioenergy 2020+, AUSTRIA

2BO.2.1

CLOSING THE LOOP: CHEMICAL COMPOSITION AND ECONOMICS OF BUILDING BLOCKS/MONOMERS FROM INDIRECT GASIFICATION OF WASTE

Berend VREUGDENHIL, Energy Research Centre of the Netherlands, Bio Energy & Efficiency Dpt., THE NETHERLANDS

Co-authors: A.J. Grootjes, G. Aranda Almansa, P. Kroon, Energy Research Centre of the Netherlands, Petten, The Netherlands

2BO.2.2

SORPTION ENHANCED REFORMING WITH THE NOVEL DUAL FLUIDIZED BED TEST PLANT AT TU WIEN

Johannes Christian SCHMID, TU Wien, Institute of Chemical Engineering, AUSTRIA

Co-authors: J. Fuchs, F. Benedikt, S. Mueller, H. Hofbauer, TU Wien, Vienna, Austria

2BO.2.3

CATALYTIC GASIFICATION OF PIGHAIR BIOWASTES WITH HYDROGEN GENERATION OVER NIO/AL₂O₃ CATALYST FOR AN INTEGRATED FUEL PROCESSOR

Chao-Lung CHIANG, Yuan Ze University, Chemical Engineering and Material Science Dpt., TAIWAN

Co-authors: K.S. Lin, Yuan Ze University, Taoyuan, Taiwan; J.C.S. Wu, K.C.W. Wu, National Taiwan University, Taipei, Taiwan; Y.Z. Huang, Chung Yuan Christian University, Taoyuan, Taiwan

2BO.2.4

GASIFICATION OF GRAPEVINES PRUNING RESIDUES INTO A FUEL FLEXIBLE GASIFICATION SYSTEM: EXPERIMENTAL INVESTIGATION

Roberto MUSSI, Yanmar R&D Europe, ITALY

Co-authors: L. Pezzola, A. Bellissima, Yanmar R&D Europe, Florence, Italy; A.M. Rizzo, University of Florence, Florence, Italy; H. Wakizaka, Yanmar biomass power generation group, Maibara, Japan; D. Chiamonti, RE-CORD, Florence, Italy

2BO.2.5

CONVERSION OF TARS ON SOFC ANODES

Tobias HERRMANN, University of Erlangen-Nuremberg, Chair of Energy Process Engineering, GERMANY

Co-authors: M. Dillig, J. Karl, Chair of Energy Process Engineering, Friedrich-Alexander-University of Erlangen-Nuremberg, Nürnberg, Germany

08:30 - 10:00

ORAL SESSION 3BO.3

Biorefinery Processes

ROOM: K1

CHAIRPERSONS:

Yukihiko MATSUMURA, Hiroshima University, JAPAN

Wouter HUIJGEN, Energy Research Centre of the Netherlands, THE NETHERLANDS

3BO.3.1

MILD ORGANOSOLV FRACTIONATION OF LIGNOCELLULOSIC BIOMASS FOR FEEDSTOCK FLEXIBLE BIOREFINERIES.

Arjan SMIT, Energy Research Center of the Netherlands, Biomass & Energy Efficiency Dpt., THE NETHERLANDS

3BO.3.2

CATALYTIC REDUCTIVE FRACTIONATION: INTRODUCING THE LIGNIN-FIRST BIOREFINERY

Tom RENDERS, KU Leuven, Center for Surface Chemistry and Catalysis, BELGIUM
Co-authors: W. Schutyser, S. Van den Bosch, S.-F. Koelewijn, B. Sels, KU Leuven, Leuven, Belgium

3BO.3.3

PALM KERNEL MEAL (PKM) AND GRASS: VALORISATION OF NON-WOODY BIOMASS STREAMS BY CONVERSION TO BIO-ENERGY AND BIO-BASED PRODUCTS

Pavlina NANOOU, Energy Research Centre of the Netherlands, Biomass and Energy Efficiency Dpt., THE NETHERLANDS

Co-authors: E.R.P. Keijsers, K.P.H. Meesters, B. Beelen, FBR, Wageningen, The Netherlands; J.R. Pels, M.C. Carbo, Energy Research Centre of the Netherlands, Petten, The Netherlands

3BO.3.4

MECHANOCATALYSIS OF LIGNOCELLULOSIC BIOMASS - AN INNOVATIVE BIOECONOMIC SOLUTION FOR BIOFUEL, BIOCHEMICAL AND ENERGY PRODUCTION

Laura SCHNEIDER, Oulu University, Research Unit of Sustainable Chemistry, FINLAND

Co-authors: J. Haverinen, M. Jaakkola, CEMIS Oulu, Kajaani, Finland; U. Lassi, Oulu University, Finland

3BO.3.5

IMPROVEMENT OF BIOENERGY YIELDS OBTAINED FROM DUCKWEED BY SEQUENTIAL ETHANOL FERMENTATION AND ANAEROBIC DIGESTION

Ozgul CALICIOGLU, The Pennsylvania State University, Civil and Environmental Engineering Dpt., USA

Co-author: R. Brennan, Penn State University, Department of Civil and Environmental Engineering, University Park, USA

08:30 - 10:00

ORAL SESSION 5BO.4

Bioenergy Integration in Energy Systems

ROOM: K23+K24

CHAIRPERSONS:

Bernd KRAUTKREMER, Fraunhofer IWES, GERMANY

Andreas HORNING, Fraunhofer-Institut UMSICHT, GERMANY

5BO.4.1

**“THINK AND PRODUCE” INSTEAD OF “PRODUCE AND FORGET” -
INTEGRATION OF RES INTO AN ECONOMIC MARKET SYSTEM**

Kilian HARTMANN, Aschaffenburg University of Applied Sciences, Faculty of
Engineering, GERMANY

Co-author: D. I. Candra, Aschaffenburg University of Applied Sciences, Germany

5BO.4.2

**THE ROLE OF BIOECONOMY IN CO2 MITIGATION THROUGH THE ENERGY
SYSTEM - A SCENARIO ANALYSIS FOR THE NETHERLANDS**

Ric HOEFNAGELS, Utrecht University, Copernicus Institute, THE NETHERLANDS

Co-authors: I. Tsiropoulos, M. van den Broek, Utrecht University, The Netherlands; M.K. Patel, Geneva
University, Switzerland; A.P.C. Faaij, Groningen University, The Netherlands

5BO.4.3

**FLEXIBLE BIOGAS PLANTS AS SERVANT FOR POWER PROVISION SYSTEMS
WITH HIGH SHARES OF RENEWABLES: CONTRIBUTIONS TO THE REDUCTION
OF THE RESIDUAL LOAD IN GERMANY.**

Markus LAUER, DBFZ-German Biomass Research Centre, Bioenergy Systems Dpt.,
GERMANY

Co-authors: P. Röppischer, University of Leipzig, Faculty of Mathematics and Computer Science,
Germany; D. Thrän, UFZ Helmholtz-Zentrum für Umweltforschung, Leipzig, Germany

5BO.4.4

**INTEGRATED UTILIZATION PATHWAYS FOR BIOGENIC CO2 IN BIOMASS
DRIVEN INDUSTRY SECTORS**

Janne KÄRKI, VTT Technical Research Centre of Finland, FINLAND

Co-authors: E. Tsupari, C. Bajamundi, S. Kouri, M. Hurskainen, VTT Technical Research Centre of
Finland, Jyväskylä, Finland

5BO.4.5

**CHEMICAL LOOPING COMBUSTION OF SOLID BIOMASS - PERFORMANCE OF
ILMENITE AND BRAUNITE AS OXYGEN CARRIER MATERIALS**

Toni PIKKARAINEN, VTT Technical Research Centre of Finland, Renewable Energy
Processes, FINLAND

Co-authors: S. Teir, I. Hiltunen, VTT Technical Research Centre of Finland, Espoo, Finland

08:30 - 10:00

VISUAL PRESENTATIONS 2BV.1

Innovative Methods and Tools for Small and Large Scale Combustion Technologies Modelling. Solid Biofuels Characterisation and Production Systems Assessment

ROOM: Poster Area

CHAIRPERSONS:

Lasse ROSENDAHL, Aalborg University, DENMARK

Juan Esteban CARRASCO, CIEMAT, SPAIN

Marco BARATIERI, Free University of Bolzano, ITALY

2BV.1.2

INFLUENCE OF THE GRANULOMETRY AND WATER CONTENT ON THE ENERGY CONSUMPTION OF MILLING SORGHUM AND BAMBOO

Bruno GODIN, Walloon Agricultural Research Center, Biomass, Bioproducts and Energy Unit, BELGIUM

Co-authors: A. Arimont, M. Temmerman, J. Delcarte, Walloon Agricultural Research Center - CRA-W, Gembloux, Belgium

2BV.1.3

INFLUENCE OF THE TYPE OF MILL ON THE ENERGY CONSUMPTION OF MILLING BIOMASS

Bruno GODIN, Walloon Agricultural Research Center, Biomass, Bioproducts and Energy Unit, BELGIUM

Co-authors: O. Prajara, M. Temmerman, J. Delcarte, Walloon Agricultural Research Center - CRA-W, Gembloux, Belgium

2BV.1.4

INFLUENCE OF REACTION PARAMETERS OF HYDROTHERMAL CARBONIZATION ON THE ALKALI AND FOULING INDEX OF HYDROTHERMALLY CARBONIZED BIOMASS

Lynn HANSEN, TU Munich, Mechanical Engineering Dpt., GERMANY

Co-authors: M. Ulbrich, S. Fendt, H. Spliethoff, TU Munich, Garching, Germany

2BV.1.5

BRIQUETTING LIKE AN ALLTERNATIVE TO BENEFIT THE SUGAR CANE HARVEST RESIDUES (RAC) IN THE COGENERATION PROCESS ON THE COLOMBIAN SUGAR CANE INDUSTRY

Julian LUCUARA, Cenicana, COLOMBIA

Co-authors: A. Gomez Perla, N. Gil Zapata, W. Ojeda, Cenicana, Cali, Colombia

2BV.1.7

INFLUENCE OF ROAD SALTING ON CHLORINE CONTENT OF ROAD SIDE WOODY BIOMASS

Harald THORWARTH, Rottenburg University of Applied Sciences, Firing Technology Dpt., GERMANY

Co-authors: M. Woehler, S. Rieder, University of Applied Forest Sciences Rottenburg, Germany

2BV.1.10

INFLUENCE OF OUTDOORS STORAGE OF SHRUB BIOMASS ON EMISSIONS AND SLAGGING DURING ITS COMBUSTION

Elena BORJABAD, CIEMAT, Energy Dpt., SPAIN

Co-authors: I. Mediavilla, A. Pascual, S. García, M.J. Fernández, J.E. Carrasco, L.S. Esteban, R. Ramos, CEDER-CIEMAT, Soria, Spain

2BV.1.13

THE IMPACT OF BLENDING METHOD AND THE ASHING TEMPERATURE ON THE MELTING CHARACTERISTICS OF ASHES OF BIOMASS BLENDS

Siim LINK, Tallinn University of Technology, Energy Technology Dpt., ESTONIA

Co-authors: P. Yrjas, L. Hupa, Åbo Akademi University, Turku, Finland

2BV.1.15

NUMERICAL SIMULATION OF DEVOLATILIZATION OF WOOD LOGS AND PRESSURE GENERATION IN THE WOOD LOG CENTER

Inge HABERLE, Norwegian University of Science and Technology, Energy and Process Engineering Dpt., NORWAY

Co-authors: O. Skreiberg, Sintef Energy Research, Trondheim, Norway; N. Haugen, NTNU/Sintef Energy Research, Trondheim, Norway

2BV.1.16

TRANSIENT CFD SIMULATIONS OF WOOD LOG COMBUSTION IN A WOOD STOVE

Øyvind SKREIBERG, SINTEF Energy Research, Thermal Energy Dpt., NORWAY

Co-authors: M. Bugge, N.E.L. Haugen, O. Skreiberg, SINTEF Energy Research, Trondheim, Norway

2BV.1.18

GRATEADVANCE - ADVANCED ADJUSTABLE GRATE SOLUTIONS FOR FUTURE FUEL FLEXIBLE BIOMASS COMBUSTION TECHNOLOGIES

Sabine FELDMEIERS, Bioenergy 2020+, AUSTRIA

Co-authors: E. Wopienka, M. Schwarz, Bioenergy2020+, Wieselburg, Austria; R. Mehrabian, Bioenergy2020+, Graz, Austria

2BV.1.19

BIOMASS MATERIAL FOR RESEARCH WORK - REPRESENTATIVITY, SAMPLING, AND SAMPLE HANDLING

Magnus RUDOLFFSSON, Swedish University of Agricultural Sciences, Forest Biomaterials and Technology Dpt., SWEDEN

Co-authors: G. Kalen, S.H. Larsson, Swedish University of Agricultural Sciences, Umea, Sweden; M. Segerström, Swedish University of Ab, Umea, Sweden

2BV.1.20

METHANE EMISSIONS FROM SMALL SCALE APPLIANCES BURNING WOOD AND PELLETS

Senem OZGEN, Polytechnic of Milan, Civil and Environmental Engineering Dpt., ITALY

Co-authors: G. Migliavacca, INNOVHUB - Stazione Sperimentale per i Combustibili, Milano, Italy; C. Morreale, Politecnico INNOVHUB - Stazione Sperimentale per i Combustibili di Milano, Italy

2BV.1.21

OPTIMIZATION OF THE COMBUSTION OF VEGETABLE OILS IN A SEMI INDUSTRIAL BOILER

Julio SAN JOSÉ, Universidad de Valladolid, Ingeniería Energética y Fluidomecánica Dpt., SPAIN

Co-authors: M.A. Sanz-Tejedor, Y. Arroyo, Universidad de Valladolid, Spain

2BV.1.22

MAIN GOAL OF THIS RESEARCH - TO PROMOTE A MORE EFFICIENT USE OF WHEAT STRAW FOR CLEANER ENERGY PRODUCTION BY CO-FIRING STRAW PELLETS WITH SOLID AND GASEOUS FUELS (WOOD PELLETS, PROPANE) AND ASSESSING

Inesa BARMINA, University of Latvia, Institute of Physics, LATVIA
Co-author: R. Valdmanis, Institute of Physics, University of Latvia, Salaspils, Latvia

2BV.1.23

THE ROLE OF AEROSOLS FROM BIOMASS COMBUSTION

Thomas NUSSBAUMER, Verenum Research and Lucerne University of Applied Sciences, SWITZERLAND

2BV.1.27

RESEARCH FACILITY ASSESSMENT FOR BIOMASS COMBUSTION IN MOVING GRATE FURNACE

Francesco GALLUCCI, CREA-ING, ITALY
Co-authors: M. Salerno, CREA, Roma, Italy; E. Guerriero, CNR, Roma, Italy; M. Amalfi, F. Palmieri, G. Chiatti, Uniroma3, Roma, Italy

2BV.1.28

UTILIZATION OF NATURALLY OCCURRING MATERIALS IN THE BIO-BASED CHEMICAL LOOPING COMBUSTION

Martin F. SUNDING, SINTEF Energy Research, Materials and Chemistry Dpt., NORWAY
Co-authors: M. Pishahang, Y. Larring, SINTEF, Oslo, Norway

2BV.1.29

COUPLED VENTILATION AND FLUE GAS HEAT EXCHANGER SYSTEM FOR USE IN LOW ENERGY DWELLINGS: AN INVESTIGATION USING DYNAMIC ENERGY SIMULATIONS.

Axel CABLE, INSA, FRANCE
Co-authors: A. Cablé, K. Chetehoua, INSA Centre Val de Loire, PRISME Laboratory, Bourges, France & SINTEF Building and Infrastructure, O, Bourges, France; L. Georges, NTNU, Trondheim, Norway; P. Peigné, Laboratoire CERIC, Poujoulat Group, Saint-Symphorien, France, St Symphorien, France; Ø. Skreiberg, SINTEF Energy Research, Trondheim, Norway, Bourges, France

2BV.1.30

DEVELOPMENT OF AN INNOVATIVE LOW-COST/LOW-EMISSION PELLET-BASED STOVE TECHNOLOGY

Ali SHIEHNEJAD-HESAR, Bioenergy 2020+, AUSTRIA
Co-authors: T. Gruber, R. Mehrabian, Bioenergy 2020+, Graz, Austria; T. Bauer, HET Heiz- und Energietechnik Entwicklungs GmbH, Seekirchen am Wallersee, Austria; A. Anca-Couce, R. Scharler, Institute for Thermal Engineering; TU-Graz, Austria;

2BV.1.32

CO₂ CAPTURE FROM COMBUSTION OF BIOMASS VOLATILES WITH A CHEMICAL-LOOPING COMBUSTION PROCESS

Carl LINDERHOLM, Chalmers University of Technology Göteborg, Energy and Environment Dpt., SWEDEN
Co-authors: P. Moldenhauer, M. Biermann, T. Mattisson, Chalmers University of Technology, Gothenburg, Sweden

2BV.1.34

EVALUATION OF THE BIO-OIL COMBUSTION PRODUCED FROM COCONUT ENDOCARP VIA NUMERICAL STUDIES

Shirley DUARTE, Universidad Nacional de Asuncion, Facultad de Ciencias Químicas, Industrial Applications, PARAGUAY

Co-authors: D. Alviso, Universidad de Buenos Aires, Buenos Aires, Argentina; N. Alvarenga, Universidad Nacional de Asuncion, San Lorenzo, Paraguay; J.C. Rolón, Centrale-Supélec, Université Paris Saclay, Paris, France

2BV.1.36

EFFECTIVE SYSTEM INTEGRATION OF DECENTRALISED BIOMASS COGENERATION PLANTS

Rafal STRZALKA, Stuttgart University of Applied Sciences, GERMANY

Co-authors: A. Strzalka, U. Eicker, Stuttgart University of Applied Sciences, Germany; J. Kalina, Silesian University of Technology, Gliwice, Poland

2BV.1.37

EVALUATION OF ACOUSTIC INTENSIFICATION IN AN HYBRID WATER/FIRE TUBE BOILER'S FURNACE BURNING EUCALYPTUS CHIPS

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

Co-authors: L.R. de Mello e Pinto, P.S. Pedroso Corrêa Jr, D.M. Yepes Maya, A.M. Martinez Reyes, O.J. Venturini, R. Vieira Andrade, L.J. Mendes Neto, UNIFEI, Itajubá, Brazil; A. Ratner, UIOWA, Iowa, USA

2BV.1.38

BEREAL-METHOD FOR PELLET STOVES: FIELD TEST AND ROUND ROBIN

Hans BACHMAIER, Technology and Support Centre in the Centre of Excellence for Renewable Resources, Solid Biofuels Dpt., GERMANY

Co-authors: H. Oehler, H. Hartmann, Technology and Support Centre in the Centre of Excellence for Renewable Resources (TFZ), Straubing, Germany; M. Rönnbäck, H. Persson, SP Technical Research Institute of Sweden, Boras, Sweden; M.G. Jespersen, J. Hinnerkov Jensen, Danish Technological Institute, Taastrup, Denmark; Ch. Schmidl, G. Reichert, Bioenergy 2020+ GmbH, Wieselburg, Austria; S. Pelz, M. Wöhler, University of Applied Forest Sciences, Rottenburg, Germany

2BV.1.39

BEREAL: A PRACTICAL TEST METHOD FOR FIREWOOD ROOMHEATERS - REAL-LIFE RELEVANCE AND REPRODUCIBILITY

Christoph SCHMIDL, Bioenergy 2020+, Biomass Combustion Dpt., AUSTRIA

Co-authors: G. Reichert, H. Stressler, R. Sturmlechner, Bioenergy2020+, Wieselburg-Land, Austria; M.G. Jespersen, DTI, Aarhus, Denmark; H. Hartmann, R. Mack, H. Oehler, TFZ, Straubing, Germany; S. Pelz, M. Woehle, HFR, Rottenburg, Germany; H. Persson, M. Ronnback, SP, Boras, Sweden;

2BV.1.40

THE USE OF OPEN SORPTION TECHNOLOGY FOR HEAT RECOVERY IN BIOMASS COMBUSTION APPLICATIONS

Ernst HÖFTBERGER, Bioenergy 2020+, AUSTRIA

Co-authors: R. Riepl, B. Hebenstreit, L. Golicza, A. Weissinger, C. Schmidl, W. Haslinger, Bioenergy 2020+, Graz, Austria; K. Paar, Güssing Energy Technologies, Güssing, Austria; R. Zweiler, Güssing Energy Technologies, Güssing, Austria; C. Hochenauer, TU Graz, Graz, Austria

2BV.1.41

SLAGGING PREVENTION AND PLANT OPTIMIZATION BY MEANS OF NUMERICAL SIMULATION

Thomas PLANKENBÜHLER, Friedrich-Alexander-University Erlangen, Chair of Energy Process Engineering, GERMANY

Co-authors: D. Müller, J. Karl, Friedrich-Alexander-University Erlangen-Nuremberg, Nuremberg, Germany

2BV.1.43

EXPERIMENTAL EVALUATION OF INTERACTIONS BETWEEN K, CA AND P AND MN/SI-BASED OXYGEN CARRIERS

Henrik LEION, Chalmers University of Technology, Chemistry and Chemical Engineering Dpt., SWEDEN

Co-authors: D. Zhao, P. Knutsson, B.-M. Steenari, Chalmers University of Technology, Göteborg, Sweden

2BV.1.44

NUMERICAL ANALYSIS FOR THE LOW-EMISSION DUAL FUEL COMBUSTION IN A BOILER TYPE OP-230

Przemyslaw MOTYL, Kazimierz Pulaski University of Technology and Humanities in Radom, POLAND

Co-author: J. Lach, Kazimierz Pulaski University of Technology & Humanities in Radom, Faculty of Mechanical Engineering, Radom, Poland

2BV.1.45

PERFORMANCE EVALUATION OF A WASTE TO ENERGY POWER PLANT: AN EXERGETIC APPROACH

Francis Chinweuba EBOH, University of Borås, Swedish Centre for Resource Recovery, SWEDEN

Co-authors: P. Ahlström, T. Richards, University of Borås, Borås, Sweden

2BV.1.48

INVESTIGATION OF CONGLOMERATES IN THE FUEL BED AND DEPOSITS ON HEAT EX-CHANGER TUBES IN A FLUIDIZED BED PILOT PLANT

Britta BERGFELDT, Karlsruhe Institute of Technology, ITC Dpt., GERMANY

Co-authors: G. Pfrang-Stotz, Karlsruhe Institute of Technology, Germany; J. Reichelt, IBR, Bruchsal, Germany; E. Karrer, INTEC, Bruchsal, Germany

2BV.1.49

EFFECTS OF FUEL PROPERTIES ON COMBUSTION AND EMISSIONS OF A DIRECT INJECTION DIESEL ENGINE FUELED WITH N-BUTANOL-DIESEL BLENDS

Miao YANG, Energy Research Institute Co., Ltd, Henan Academy of Science, P.R. CHINA

Co-authors: Z.W. Wang, S.M. Guo, X.F. Xin, T. Qi, T.Zh. Lei, Energy Research Institute Co., Ltd, Zhengzhou, P.R. CHINA; X.Y. Yan, University of Exeter Penryn Campus, Penryn, UNITED KINGDOM

2BV.1.50

PYROLYSIS OIL COMBUSTION IN A HORIZONTAL BOX FURNACE WITH AN EXTERNALLY MIXED NOZZLE

Akwasi A. BOATENG, U.S. Department of Agriculture, Eastern Regional Research Center, USA

Co-authors: F.C. Lujaji, Nelson Mandela African Institution of Science and Technology, WyndArusha, Tanzania; M.A. Schaffer, C.A. Mullen, USDA-ARS, Wyndmoor, USA

2BV.1.51

ENERGETIC POTENTIAL OF TROPICAL BIOMASSES

Deyvison SOUZA RODRIGUES, UFABC, BRAZIL

Co-authors: D.R. Rodrigues, A.R. Santana, J.M.G. Rios, K.B.B. Marana, C.A. Silva, J.T.C.L. Toneli, G.C. Antonio, UFABC, Santo André, Brazil

2BV.1.52

CO-COMBUSTION OF COAL AND BIOMASS: COMBUSTION CHARACTERISTICS, FOULING AND BED AGGLOMERATION TENDENCY

Suneerat FUKUDA, King Mongkut's University of Technology Thonburi, The Joint Graduate School of Energy and Environment, THAILAND

Co-authors: S. Kerkkaiwan, P. Chaivatamaset, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

2BV.1.53

NOVEL ELECTRICAL CHARGING CONDENSING HEAT EXCHANGER FOR PARTICLE EMISSION REDUCTION AND EFFICIENT HEAT RECOVERY IN SMALL BOILERS

Olli SIPPULA, University of Eastern Finland, Environmental and Biological Sciences Dpt., FINLAND

Co-authors: J. Grigonyte, H. Suhonen, M. Kortelainen, J. Tissari, P. Tiitta, A. Lähde, J. Keskinen, J. Jokiniemi, A. Laitinen, University of Eastern Finland, Department of Environmental and Biological Sciences, Kuopio, Finland

2BV.1.56

THE COMBUSTION CHARACTERISTICS AND DIFFERENCES IN NITROGEN CONTENT OF UK GROWN BIRCH AND SITKA SPRUCE

Douglas PHILLIPS, University of Leeds, School of Chemical and Process Engineering, UNITED KINGDOM

Co-authors: G. Allison, Aberystwyth University, United Kingdom; J.M. Jones, University of Leeds, United Kingdom

10:00 - 10:15

BREAK

10:15 - 11:00

PLENARY SESSION 1BP.1

Biomass Resources Leading Towards Lower Carbon Emissions

ROOM: K1

CHAIRPERSON:

Berien ELBERSEN, Alterra, THE NETHERLANDS

1BP.1.1

IMPACT OF WASTE WOOD RECYCLING ON THE EU BIOECONOMY. OVERVIEW ON THE MOST ADOPTED VALUE CHAIN IN EUROPE

Magdalena BORZECKA-WALKER, Institute of Soil Science and Plant Cultivation, Bioeconomy and System Analysis Dpt., POLAND

Co-author: D.Boulday, Institute of Soil Science and Plant Cultivation, Poland

1BP.1.2

NEGATIVE CARBON EMISSIONS FROM PERENNIAL RHIZOMATOUS GRASSES USED AS BIOMASS CROPS

Michael JONES, Trinity College Dublin, Botany Dpt., IRELAND

11:00 - 11:45

PLENARY SESSION 2BP.2

Biomass Application in Large Power Plants and in Supercritical Gasification

ROOM: K1

CHAIRPERSON:

Ingwald OBERNBERGER, Bios Bioenergiesysteme, AUSTRIA

2BP.2.1

UNDERSTANDING BIOMASS IGNITION IN POWER PLANT MILLS

Lars SCHWARZER, Technical University of Denmark, Chemical and Biochemical Engineering Dpt., DENMARK

Co-authors: P. A. Jensen, P. Glarborg, K. Dam-Johansen, DTU Chemical Engineering Dpt., Kgs Lyngby, Denmark; J. K. Holm, DONG Energy, Fredericia, Denmark

2BP.2.2

SEPARATION OF SALTS DURING THE GASIFICATION OF SPENT GRAIN IN SUPERCRITICAL WATER

Nikolaos BOUKIS, Karlsruhe Institute of Technology, Institute of Catalysis Research and Technology, GERMANY

Co-authors: I.K. Stoll, J. Sauer, Karlsruhe Institute of Technology, Germany; J. Fischer, R. Kansy, Paulaner, Munich, Germany

11:45 - 12:30

PLENARY SESSION 3BP.3

Advances in Biomass Conversion Technologies and Processes

ROOM: K1

CHAIRPERSON:

David CHIARAMONTI, University of Florence, RE-CORD, ITALY

3BP.3.1

BIOCONVERSION PROCESSES FOR THE BIO-BASED ECONOMY-DEVELOPMENT OF ENZYMES, ROBUST CELL FACTORIES AND ROBUST PROCESSES

Lisbeth OLSSON, Chalmers University of Technology, Chemical & Biological Engineering Dpt., SWEDEN

Co-authors: M. Bettiga, C.J. Franzén, Chalmers University of Technology, Gothenburg, Sweden

3BP.3.2

STATUS OF PYROLYSIS AND UPDATE ON THE EMPYRO PYROLYSIS DEMONSTRATION PLANT

Gerhard MUGGEN, BTG BioLiquids, THE NETHERLANDS

12:30 - 13:30

LUNCH

13:30 - 15:00

ORAL SESSION 1BO.5

Municipal and Industrial Biowaste: Specific Technologies and Case Studies

ROOM: K21

CHAIRPERSONS:

Samir BINDER, Fraunhofer-Institut UMSICHT, GERMANY

Magdalena BORZECKA, Institute of Soil Science and Plant Cultivation, Pulawy, POLAND

1BO.5.1

RESOURCE EFFICIENCY OF BIOENERGY FROM MUNICIPAL WASTE - A CASE STUDY FROM MUNICIPALITY OF STUTTGART IN SOUTHERN GERMANY

Gerold HAFNER, University of Stuttgart, ISWA - Institute for Sanitary Engineering, Water Quality and Solid Waste Management Dpt., GERMANY

Co-author: C. Maurer, University of Stuttgart, Germany

1BO.5.2

POWER GENERATION BASED ON AGRICULTURAL RESIDUES GASIFICATION: THE POTENTIAL OF CORN COBS

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

Co-authors: M. Gomez, Universidad de La Sabana, Bogotá, Colombia; L. Martinez, Universidad de La Sabana, Bogotá, Colombia; A. Sanches-Pereira, Universidade de Sao Paulo, Sao Paulo, Brazil; A. Manrique, KTH Royal Institute of Technology, Stockholm, Sweden

1BO.5.3

TECHNO-ECONOMIC OPTIMISATION OF COMBINED ANAEROBIC DIGESTION AND GASIFICATION OF FOOD WASTE AS INTEGRATED WASTE MANAGEMENT AND ENERGY SYSTEM

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

Co-authors: A. Singlitico, K. Dussan, J. Goggins, National University of Ireland, Galway, Ireland; R. O'Shea, D. Wall, J. Murphy, University College Cork, Ireland

1BO.5.4

ASSESSMENT OF CITRUS WASTES GASIFICATION THROUGH A FLUIDIZED BED REACTOR: EXPERIMENTAL ANALYSIS FOR INTEGRATION IN AN EXISTING CITRUS JUICE INDUSTRY

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

Co-authors: V. Chiodo, G. Zafarana, CNR-ITAE, Messina, Italy; A. Galvagno, University of Messina, Italy

1BO.5.5

INCREASED BIOGAS PRODUCTION FROM SEWAGE SLUDGE AND MANURE WITH HIGHLY EFFICIENT DEWATERING AND PHOSPHATE RECOVERY

Jaap KIEL, Energy Research Centre of the Netherlands, Biomass & Energy Efficiency Dpt., THE NETHERLANDS

Co-authors: A.J. Grootjes, J.R. Pels, M.C. Carbo, Energy Research Centre of the Netherlands, Petten, The Netherlands; H. Kuipers, Waterschap Zuiderzeeland, Lelystad, The Netherlands; J. Vogelaar, Paques B.V., Balk, The Netherlands

13:30 - 15:00

ORAL SESSION 2BO.6

Research and Development Concerning Aspects of Gasification, Gas Cleaning and CHP

ROOM: K2

CHAIRPERSONS:

Marco BARATIERI, Free University of Bolzano, ITALY

Markus BOLHÀR-NORDENKAMPF, Valmet, AUSTRIA

2BO.6.1

ASH AND BED MATERIAL RESEARCH IN DUAL FLUIDIZED BED GASIFICATION OF BIOMASS IN LAB- AND INDUSTRIAL-SCALE

Matthias KUBA, Bioenergy 2020+, AUSTRIA

Co-author: H. Hofbauer, TU Wien, Vienna, Austria

2BO.6.2

GASIFICATION OF ANAEROBIC DIGESTATE FROM MIX OF BIOMASS RESIDUES, MANURES AND MSW TO COMBINED HEAT AND POWER PRODUCTION

Donatella BARISANO, ENEA Research Centre, Energy Technologies Dpt., ITALY

Co-authors: F. Nanna, A. Villone, R. Agostini, C. Freda, G. Cornacchia, ENEA Research Centre, Rotondella, Italy; S. Brandani, Ladurner Srl, Bolzano, Italy

2BO.6.3

SEWAGE SLUDGE PYROLYSIS IN AN INDIRECTLY HEATED ROTARY KILN: PRIMARY MEASURES FOR TAR REDUCTION.

Sonia L. RINCON PRAT, National University of Colombia, Mechanical and Mechatronics Engineering Dpt., COLOMBIA

Co-authors: L. Mendoza Geney, A. Gomez, S. Rincon, Universidad Nacional de Colombia, Bogotá, Colombia

2BO.6.4

THE ROLE OF INORGANICS IN MODELLING OF BIOMASS GASIFICATION

Jukka KONTTINEN, Tampere University of Technology, Chemistry and Bioengineering Dpt., FINLAND

Co-authors: J. Krumb, Tampere University of Technology, Tampere, Finland; N. DeMartini, Åbo Akademi Process Chemistry Centre, Turku, Finland; A. Gomez-Barea, University of Seville, Spain

2BO.6.5

KINETIC STUDY OF SUPERCRITICAL WATER GASIFICATION IN THE MIXTURE OF GLUCOSE, XYLOSE, AND GUAIACOL

Nattacha PAKSUNG, Hiroshima University, Mechanical Sciences and Engineering Dpt., JAPAN

Co-author: Y. Matsumura, Hiroshima University, Higashi-Hiroshima, Japan

13:30 - 15:00

ORAL SESSION 3BO.7

Biorefinery Concepts

ROOM: K1

CHAIRPERSONS:

Gerfried JUNGMEIER, Joanneum Research Forschungsgesellschaft, AUSTRIA

Pavlina NANOU, Energy Research Centre of the Netherlands, THE NETHERLANDS

3BO.7.1

TECHNOLOGICAL ADVANCES AND OPPORTUNITIES FOR THE DEVELOPMENT OF SUSTAINABLE BIOREFINERIES

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

3BO.7.2

TECHNO-ECONOMIC EVALUATION OF A SMALL SCALE INTEGRATED BIOREFINERY BASED ON OLIVE TREE PRUNING BIOMASS

Ana Isabel SUSMOZAS, CIEMAT, Energy Dpt., SPAIN

Co-authors: I. Ballesteros, M.J. Negro, J.M. Oliva, M. Ballesteros, CIEMAT, Madrid, Spain

3BO.7.3

SMIBIO: A GERMAN BUSINESS CASE STUDY

Ingo BALL, WIP, Project Dpt., GERMANY

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

3BO.7.4

BLACK RICE STRAW AS A FEEDSTOCK FOR THE EXTRACTION OF ANTHOCYANIN AND SUGARS IN A COMBINED BIOREFINERY

Kamaljit MOIRANGTHEM, University of Nottingham, Biosciences Dpt., UNITED KINGDOM

Co-authors: P. Ramakrishna, A. Ghumra, G. Tucker, University of Nottingham, Loughborough, United Kingdom; R. Rajkumari, D.M. College of Science, Imphal, India

3BO.7.5

MACROALGAE BIOREFINERY IN A NORDIC PERSPECTIVE

Anne-Belinda BJERRE, Danish Technological Institute, Biomass and Biorefinery Dpt., DENMARK

Co-authors: X. Hou, R. Neerup, D.B. Karakashev, Danish Technological Institute, Taastrup, Denmark

13:30 - 15:00

ORAL SESSION IBO.8

Biomass Utilisation Perspectives

ROOM: K23+K24

CHAIRPERSONS:

Kees KWANT, Netherlands Enterprise Agency, Ministry of Economic Affairs, THE NETHERLANDS

Nathalie DEVRIENDT, VITO - Flemish Institute Technological Research, BELGIUM

IBO.8.1

PROMOTING A NEW EUROPEAN STRATEGY FOR ORGANIC WASTE VALORISATION INTO HIGH VALUE BIO-SYNGAS AS A NEW DIRECTION TOWARDS THE EUROPEAN BIOFUELS SECTOR DEVELOPMENT

Giuliano GRASSI, Secretary General, European Biomass Industry Association, BELGIUM
Co-authors: L. Tita, EUBIA, Bruxelles, Belgium

IBO.8.2

FROM GREEN FOREST TO GREEN COMMODITY CHEMICALS

Jonas JOELSSON, SP Processum, SWEDEN

Co-authors: M. Warneryd, SP Technical Research Institute of Sweden, Gothenburg, Sweden; Y. Alwarsdotter, SEKAB, Örnsköldsvik, Sweden; J. Brücher, Holmen, Örnsköldsvik, Sweden; L. Heuts, West Sweden Chemicals and Materials Cluster, Gothenburg, Sweden

IBO.8.3

SUSTAINABLE REGIONAL SUPPLY CHAINS FOR WOODY BIOENERGY IN EASTERN EUROPE

Frank MISCHLER, GIZ- German Development Cooperation, GERMANY

IBO.8.4

ASH REMOVAL FROM ASH-RICH BIOMASS AND SLUDGE: THE BIAR PROCESS

Gian Claudio FAUSSONE, Inser Energia, ITALY

Co-authors: M. Grilc, B. Likozar, National Institute of Chemistry, Ljubljana, Slovenia Republic

IBO.8.5

BIOENERGY IN BALANCING GRIDS AND PROVIDING STORAGE OPTIONS - RESULTS OF IEA BIOENERGY AGREEMENT SPECIAL PROJECT

Antti ARASTO, VTT Technical Research Centre of Finland, FINLAND

Co-authors: D. Chiamonti, University of Florence, Italy; J. Kiviluoma, K. Sipilä, VTT Technical Research Centre of Finland, Espoo, Finland; E. van den Heuvel, studio Gear Up, Amsterdam, The Netherlands; L. Waldheim, Waldheim Consulting, Stockholm, Sweden; K. Maniatis, European Commission DG ENER, Brussels, Belgium

13:30 - 15:00

VISUAL PRESENTATIONS 5BV.2

Integration of Bioenergy with other Renewable and Conventional Energy Sources

ROOM: Poster Area

CHAIRPERSONS:

David BAXTER, Former European Commission, Joint Research Centre, UNITED KINGDOM

Ursel HORNING, Karlsruhe Institute of Technology, GERMANY

Jeffrey SKEER, IRENA-International Renewable Energy Agency, GERMANY

5BV.2.1

BIOBATTERY: INTEGRATION OF THERMO-CATALYTIC REFORMING, PRESSURE SWING ADSORPTION AND HYDROTREATMENT FOR THE PRODUCTION OF 100% GREEN FUELS, BIOCHAR, HEAT AND POWER

Miloud OUADI, Fraunhofer-Institut UMSICHT, GERMANY

Co-authors: S. Binder, A. Hornung, Fraunhofer UMSICHT, Sulzbach-Rosenberg, Germany

5BV.2.2

ENERGETIC ANALYSIS OF INNOVATIVE HYBRID BIOMASS/SOLAR ORGANIC RANKINE CYCLES (ORCS) FOR MICRO-SCALE CHP APPLICATIONS

Angelo ALGIERI, University of Calabria, Mechanical, Energy and Management Engineering Dpt., ITALY

Co-authors: P. Morrone, F. Rovense, University of Calabria, Arcavacata di Rende, Italy

5BV.2.3

BIOENERGY INTEGRATION IN ETHANOL PLANTS: AN ALTERNATIVE END USE FOR BIOGAS TO ENABLE 2G ETHANOL PRODUCTION

Alessandro SANCHES-PEREIRA, University of Sao Paulo, Institute of Energy and Environment, BRAZIL

Co-authors: C. L. Joppert, M.M. Santos, H.K.M. Costa, S.T. Coelho, Institute of Energy and Environment of the University of São Paulo, São Paulo, Brazil

5BV.2.5

RELIABLE BIO-BASED REFINERY INTERMEDIATES - BIOMATES

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

Co-authors: V. Heil, Fraunhofer UMSICHT, Oberhausen, Germany; S. Bezegegianni, CERTH/CPERI, Thessaloniki, Greece; N. Rettenmaier, ifeu - Institut für Energie- und Umweltforschung Heidelberg GmbH, Heidelberg, Germany; U. Pfisterer, BP Europa SE, Hamburg, Germany; M. Martin, Ranidosro, Prague, Czech Republic; M. Mulder, Hydrogen Efficiency Technologies (HyET) BV, Arnhem, The Netherlands; R. Diaz-Chavez, Imperial College of Science, Technology and Medicine, London, United Kingdom; D. Kubicka, University of Chemistry and Technology Prague, Czech Republic

5BV.2.6

THE COMBINATION OF BIOMASS WITH SOLAR THERMAL ENERGY AND OTHER RENEWABLES FOR SMALL HEATING GRIDS

Dominik RUTZ, WIP, Biomass Unit, GERMANY

Co-authors: R. Mergner, R. Janssen, WIP, Munich, Germany; M. Hofmeister, L. Laurberg Jensen, PlanEnergi, Århus, Denmark; C. Doczekal, R. Zweiler, Güssing Energy Technologies GmbH, Güssing, Austria; T. Puksec, N. Duic, University of Zagreb (UNIZAG FSB), Zagreb, Croatia; R. Sunko, B. Sunko, Skupina fabrika d.o.o., Ljutomer, Slovenia Republic; N. Markovska, M. Karanflovka, International Centre for Sustainable Development of Energy, Water and Environment Systems, Skopje, Macedonia; N. Rajkovic, I. Batas Bjelic, School of Electrical Engineering and Computer Science, Belgrade, Serbia; A. Kazagic, A. Ademovic-Tahirovic, Elektroprivreda, Sarajevo, Bosnia and Herzegovina; S. Jerotic, Municipality of Sabac, Serbia; E. Fejzovic, Municipality of Visoko, Bosnia and Herzegovina; T. Zrinski, Municipality of Ljutomer, Slovenia Republic

5BV.2.9

ELECTRICITY PRODUCTION VIA BIOGAS PLANTS IN ELECTRICITY GRIDS WITH A HIGH SHARE OF INSTALLED VOLATILE POWER PRODUCERS

Katharina BÄR, Technische Hochschule Ingolstadt, Institute of New Energy Systems, GERMANY

Co-authors: M. Sonnleitner, W. Zörner, Technische Hochschule Ingolstadt, Germany

5BV.2.12

UNCERTAINTY IN CLIMATE BENEFITS OF BIOENERGY WITH CARBON CAPTURE AND STORAGE

Steeff HANSEN, Radboud University, Environmental Science Dpt., THE NETHERLANDS

Co-authors: Z.J.N. Steinmann, M.A.J. Huijbregts, Radboud University, Nijmegen, The Netherlands

13:30 - 17:00

WORKSHOP

Wood Stoves 2020 - Towards high efficiency and low emissions

15:00 - 15:15

BREAK

15:15 - 16:45

ORAL SESSION 4BO.9

From Research to Implementation in an International Context

ROOM: K21

CHAIRPERSONS:

Giuliano GRASSI, Secretary General, European Biomass Industry Association, BELGIUM

Maurizio COCCHI, ETA-Florence Renewable Energies, ITALY

4BO.9.1

BIOENERGY SUSTAINING THE FUTURE AND ERA-NET BIOENERGY RESULTS

Kees KWANT, Netherlands Enterprise Agency, Ministry of Economic Affairs, RVO, THE NETHERLANDS

Co-authors: R. van Leeuwen - Jones, RVO.nl, Roermond, The Netherlands; B. de Leeuw, BEIS, London, United Kingdom

4BO.9.2

RESOURCE EFFICIENT MARKET STIMULATION POLICIES FOR INDIGENOUS BIOMASS VALUE CHAINS AT EU MEMBER STATES

Calliope PANOUTSOU, Imperial College London, Centre for Energy Policy and Technology, UNITED KINGDOM

Co-authors: A. Singh, Imperial College London, United Kingdom; A. Uslu, J. van Stralen, ECN, Amsterdam, The Netherlands; L. Pelkmans, VITO, Mol, Belgium; B. Elbersen, DLO, Amsterdam, The Netherlands

4BO.9.3

FUTURE MARKET SHARE ESTIMATION OF RENEWABLE GAS IN GERMANY USING A SYSTEM DYNAMICS MODELLING APPROACH

Thomas HORSCHIG, DBFZ-German Biomass Research Centre, Bioenergy Systems Dpt., GERMANY

Co-author: D Thrän, DBFZ-German Biomass Research Centre, Leipzig, Germany

4BO.9.4

INTERNATIONAL TRADE OF ENERGY BIOMASS - AN OVERVIEW OF THE GLOBAL STATUS

Svetlana PROSKURINA, Lappeenranta University of Technology, Laboratory of Sustainable Energy Systems, FINLAND

Co-authors: M. Junginger, Copernicus Institute, Utrecht University, Utrecht, The Netherlands; J. Heinimo, Mikkeli Development Miksei Ltd, Mikkeli, Finland; E. Vakkilainen, Lappeenranta University of Technology, Finland

4BO.9.5

SUPPLY-SIDE PERSPECTIVES ON THE EURO-AMERICAN PELLET TRADE

William HUBBARD, Southern Regional Extension Forestry, USA

Co-author: D.P. Geller, University of Georgia, Athens, GA, USA

15:15 - 16:45

ORAL SESSION 2BO.10

Advances in Gasification for Synthesis Gas Production

ROOM: K2

CHAIRPERSONS:

Christoph PFEIFER, University of Natural Resources & Life Sciences, AUSTRIA

Elmer LEDESMA, University of St. Thomas, USA

2BO.10.1

EUBCE STUDENT AWARDEE PRESENTATION

EXPERIMENTAL INVESTIGATION ON STEAM-OXYGEN FLUIDIZED BED GASIFICATION OF BIOGENIC RESIDUES

Max SCHMID, University of Stuttgart, Institute of Combustion and Power Plant Technology, GERMANY

Co-authors: M. Beirow, D. Schweitzer, R. Spörl, G. Scheffknecht, IFK University of Stuttgart, Stuttgart, Germany

2BO.10.2

GASIFICATION OF PINE FOREST RESIDUES AS FIRST STAGE FOR THE PRODUCTION OF JET FUEL VIA FISCHER-TROPSCH

Isabel FONTS, Centro Universitario de la Defensa, Chemical and Environmental Engineering Dpt., SPAIN

Co-authors: J. Abrego, N. Gil-Lalaguna, M. Atienza-Martinez, Z. Afailal, J.A Mateo-Román, Aragon Institute for Engineering Research (I3A), Universidad de Zaragoza, Zaragoza, Spain

2BO.10.3

RECIRCULATION OF REACTIVE FINES. AN OPTIMIZATION STRATEGY FOR EXISTING DUAL FLUIDIZED BED GASIFICATION SYSTEMS

Sébastien PISSOT, Chalmers University of Technology, Energy Technology Division, SWEDEN

Co-authors: T. Berdugo, M. Seemann, Chalmers University of Technology, Göteborg, Sweden

2BO.10.4

METHANATION-ENHANCED GASIFICATION - DESIGN OF A HIGH PRESSURE GASIFICATION REACTOR TO INVESTIGATE AND BOOST THE BIOMASS TO SNG CONVERSION EFFICIENCY

Gebhard WAIZMANN, University of Stuttgart IFK, Institute of Combustion and Power Plant Technology, GERMANY

Co-authors: R. Spörl, G. Scheffknecht, IFK - University of Stuttgart, Germany

2BO.10.5

ALKALI COMPOUNDS AS TAR AND SOOT SUPPRESSORS IN ENTRAINED FLOW GASIFICATION.

Albert BACH-OLLER, Luleå University of Technology, Division of Energy Science, SWEDEN

Co-authors: G. Haggstrom, K. Kirtania, E. Furusjo, K. Umeki, Division of Energy Science, Lulea University of Technology, Lulea, Sweden

15:15 - 16:45

ORAL SESSION 3BO.11

Liquefaction Processes, Kinetics and Products

ROOM: K1

CHAIRPERSONS:

Wim VAN SWAAIJ, University of Twente, THE NETHERLANDS

Ursel HORNUNG, Karlsruhe Institute of Technology, GERMANY

3BO.11.1

MICROWAVE PYROLYSIS OF BIOMASS: TURNING THE FUNDAMENTALS INTO COMMERCIAL PLANTS

Daniel BENEROSO VALLEJO, University of Nottingham, Chemical and Environmental Engineering Dpt., UNITED KINGDOM

Co-authors: J. Robinson, The University of Nottingham, Nottingham, United Kingdom

3BO.11.2

HYDROTHERMAL PROCESSING OF WASTEWATER WILLOW WITH INTEGRATED NUTRIENTS RECOVERY

Federica CONTI, Aalborg University, Energy Technology Dpt., DENMARK

Co-authors: T.H. Pedersen, L. Rosendahl, Aalborg University, Aalborg, Denmark; H.L. Bach, Ny Vraa Bioenergy, Tylstrup, Denmark

3BO.11.3

NEW PSEUDO-COMPONENTS OF HEMICELLULOSE AND LIGNIN

Karla DUSSAN, National University of Ireland, Mechanical Engineering Dpt., IRELAND

Co-authors: S. Dooley, Trinity College Dublin, Dublin, Ireland; R. Monaghan, National University of Ireland Galway, Galway, Ireland

3BO.11.4

EFFECT OF BIOMASS PARTICLE SIZE ON THE FAST PYROLYSIS CHARACTERISTICS OF PALM KERNEL SHELL TO PRODUCE THE BIOCRUDE-OIL

Sang-Kyu CHOI, Korea Institute of Machinery & Materials, Eco-Machinery System Dpt., KOREA

Co-authors: Y.S. Choi, S.J. Kim, S.Y. Han, Y.W. Jeong, Korea Institute of Machinery and Materials, Daejeon, Korea; T. Rahman, Korea University of Science and Technology, Daejeon, Korea

3BO.11.5

BIO-OIL PRODUCTION FROM PALM-OIL INDUSTRY RESIDUES EMPLOYING CONVENTIONAL AND CATALYTIC HYDROTHERMAL LIQUEFACTION

Jeerattikul KAHARN, Kasetsart University, Mechanical Engineering Dpt., THAILAND

Co-authors: A. Suemanotham, Thailand Institute of Scientific and Technological Research, Pathum Thani, Thailand; K. Somkeattikul, T. Thuechart, M. Haruthaithanasan, C. Areeprasert, Kasetsart University, Bangkok, Thailand

15:15 - 16:45

ORAL SESSION IBO.12

Commercialization of Bioenergy and Biorefinery Concepts

ROOM: K23+K24

CHAIRPERSON:

Stefan RUYTERS, Ghent Bio-Economy Valley, BELGIUM

IBO.12.1

POWER2GAS PLANT OPERATION SCHEMES - FIRST RESULTS FROM GP JOULE'S POWER GAP FILLER

Lars JÜRGENSEN, Aalborg University Esbjerg, Energy Technology Dpt., DENMARK

IBO.12.2

OPTIMISED LOW-CAPEX CONCEPT FOR THE PRODUCTION OF DROP-IN BIOFUELS VIA GASIFICATION

Ilkka HANNULA, VTT Technical Research Centre of Finland, FINLAND

Co-author: E. Kurkela, VTT Technical Research Centre of Finland, Espoo, Finland

IBO.12.3

CELLUAPP - TECHNOLOGY ENABLING WOOD BASED VALUE CHAINS

Thore LINDGREN, SEKAB E-Technology, SWEDEN

Co-author: J. Lindstedt, SEKAB E-Technology, Örnsköldsvik, Sweden

IBO.12.4

CAN BIOMASS PLAY A ROLE IN REDUCING GREENHOUSE GAS EMISSIONS FROM CANADA'S OIL SANDS?

Jamie STEPHEN, TorchLight Bioresources, CANADA

Co-authors: W.E. Mabee, Queen's University, Kingston, Canada; J. Bergerson, University of Calgary, Canada; H.L. MacLean, University of Toronto, Canada

IBO.12.5

A NOVEL ROBUST AND SELECTIVE SOLVENT FOR BIOMASS FRACTIONATION

Igor BABICH, BIOeCON, THE NETHERLANDS

Co-authors: J. Moulijn, P. O'Connor, BIOeCON, Hoevelaken, The Netherlands

15:15 - 16:45

VISUAL PRESENTATIONS 3BV.3

Biomass to Biobased Products and Bioenergy

ROOM: Poster Area

CHAIRPERSONS:

Maria GEORGIADOU, European Commission, DG Research, BELGIUM

Gerfried JUNGMEIER, Joanneum Research Forschungsgesellschaft, AUSTRIA

3BV.3.1

TECHNO-ECONOMIC ANALYSIS OF A HTL-BASED ALGAE BIOREFINERY

Kay SUWELACK, Fraunhofer INT, GERMANY

Co-authors: D. López Barreiro, F. Ronsse, W. Prins, Department of Biosystems Engineering, Ghent University, Ghent, Belgium; U. Hornung, Institute for Catalysis Research and Technology, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany; A. Kruse, Life Cycle Assessment of Renewable Resources (440f), Institute of Agricultural Engineering, University of Hohenheim, Stuttgart, Germany

3BV.3.5

BIOETHANOL AND XYLOOLIGOSACCHARIDES PRODUCTION FROM AGRICULTURAL RESIDUE

Paloma MANZANARES, CIEMAT, Biofuels Unit, Renewable Energy Division, SPAIN
Co-authors: C. Álvarez, A. González, M. Ballesteros, M.J. Negro, P. Manzanares, I. Ballesteros, J.M. Oliva, F. Saéz, CIEMAT, Madrid, SPAIN

3BV.3.6

BIOGAS BIOREFINERY: TECHNO-ECONOMIC ANALYSIS OF SEVERAL PATHS

Andrey KUTSAY, Czech Technical University in Prague, Process Engineering Dpt., CZECH REPUBLIC

Co-authors: Lukas Kratky, Tomas Jirout, Czech Technical University in Prague, Prague, Czech Republic

3BV.3.7

SUSTAINABILITY ANALYSIS OF CO-PRODUCING HIGH VALUE-ADDED BIOPRODUCTS AND BIOFUELS IN INTEGRATED BIOREFINERIES USING LIGNOCELLULOSIC RESIDUES. THE CASE OF OLIVE TREE PRUNING

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

Co-author: G. Rendon-Acosta, Laboratorio de Futuros en Bioenergía, Centro de Investigación y de Estudios Avanzados (CINVESTAV), Zapopan, Mexico

3BV.3.8

WELL-TO-TANK DATA FOR ADVANCED TAILOR-MADE BIOFUEL ALTERNATIVES

Stefan HEYNE, CIT Industriell Energi, SWEDEN

Co-authors: R. Hackl, IVL Swedish Environmental Research Institute, Stockholm, Sweden; K. Pettersson, SP Technical Research Institute of Sweden, Göteborg, Sweden; S. Harvey, M. Grahn, Chalmers University of Technology, Göteborg, Sweden

3BV.3.9

SIMULATION TOOL FOR A QUICK EVALUATION OF MOLECULES AS GASOLINE ALTERNATIVES - A CASE STUDY WITH BIO-OIL DERIVED COMPOUNDS IN BIOREFINERIES

Dominic GSCHWEND, Paul Scherrer Institute, ENE Dpt., SWITZERLAND

Co-authors: P. Soltic, EMPA, Dübendorf, Switzerland; S. Müller, F. Vogel, PSI, Villigen, Switzerland

3BV.3.10

THERMAL CONVERSION OF LIGNIN-RICH RESIDUES FROM LIGNOCELLULOSE BIOREFINING: FROM THERMOGRAVIMETRY TO UPDRAFT GASIFICATION

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

Co-authors: N. Cerone, M. Prestipino, M. Carnevale, A. Villone, ENEA, Rotondella, ITALY

3BV.3.11

LIGNOCELLULOSE-BASED INTEGRATED BIOREFINERY TECHNOLOGY IN TAIWAN TOWARDS BIO-ECONOMIC DEVELOPMENT

Chiung-Fang HUANG, Institute of Nuclear Energy Research, Division of Chemistry, TAIWAN

Co-authors: T. Y. Ma, W. H. Chen, G. L. Guo, W. S. Huang, Institute of Nuclear Energy Research, Taoyuan, Taiwan

3BV.3.12

INNOVATIVE CHAR-BASED CATALYSTS FOR THE CONVERSION OF BIOMASS-DERIVED SYNGAS TO LIQUID HYDROCARBONS

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

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

3BV.3.13

USE OF EXPERIMENTAL CATALYSTS FOR PRODUCTION OF BIO-METHANE FROM BIOMASS: TESTS OF METHANATION WITH REAL SYNGAS AND PERFORMANCE EVALUATIONS

Donatella BARISANO, ENEA Research Centre, Energy Technologies Dpt., ITALY

Co-authors: A. Lotierzo, A. Villone, R. Agostini, F. Nanna, ENEA, Rotondella, Italy; F. Basile, E. Lombardi, University of Bologna, Italy

3BV.3.14

INFLUENCE OF SULFUR COMPONENTS ON THE CATALYTIC MIXED ALCOHOL SYNTHESIS BASED ON WOOD GAS DERIVED FROM BIOMASS STEAM GASIFICATION

Matthias BINDER, Bioenergy 2020+, AUSTRIA

Co-authors: R. Rauch, Bioenergy 2020+, Güssing, Austria; H Hofbauer, TU Wien, Vienna, Austria

3BV.3.15

THE PREPARATION METHOD COMPARISON OF NICKEL BASED CARBON FIBERS-ALUMINA COMPOSITE SUPPORT FOR THE CATALYTIC REFORMING OF BIOGAS

Min SONG, Southeast University, School of Energy and Environment, P.R. CHINA

Co-authors: L. Yu, C. Wu, Y. Wei, B. Jin, Southeast University, Nanjing, P.R. China

3BV.3.16

ORGANOSOLV TREATED BARLEY STRAW FOR INDUSTRIAL LIQUID WASTE CLEANING

Dimitrios SIDIRAS, University of Piraeus, Industrial Management and Technology Dpt., GREECE

Co-authors: I. Salapa, D. Politi, G. Giakoumakis, University of Piraeus, Greece

3BV.3.18

EFFICIENT FRACTIONATION OF CORN STOVER BY ORGANOSOLV PRETREATMENT AND ENZYMATIC HYDROLYSIS OF THE OBTAINED CELLULOSIC RESIDUE

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

Co-authors: E. Viola, V. Gallo, V. Valeri, ENEA, Rotondella, Italy

3BV.3.19

HYDROGEN FREE CATALYTIC CONVERSION OF LIGNIN COUPLED WITH BIOMASS FRACTIONATION

Maxim GALKIN, Stockholm University, Organic Chemistry Dpt., SWEDEN

Co-authors: A. T. Smit, W. J. J. Huijgen, Energy Research Centre of the Netherlands, Petten, The Netherlands; E. Subbotina, J. S. M. Samec, Stockholm University, Stockholm, Sweden; K. A. Artemenko, J. Bergquist, Uppsala University, Uppsala, Sweden

3BV.3.20

LIGNOCELLULOSIC BIOREFINERIES BASED ON MIXED CULTURES

Idania VALDEZ-VAZQUEZ, Universidad Nacional Autónoma de México, Instituto de Ingeniería, MEXICO

Co-author: A. Sanchez, CINVESTAV, Guadalajara, Mexico

3BV.3.22

VALORIZATION OF EXTRACTED OLIVE OIL POMACE RESIDUE THROUGH CONVERSION INTO BIOETHANOL AND BIOPRODUCTS

Paloma MANZANARES, CIEMAT, Biofuels Unit, Renewable Energy Division, SPAIN

Co-authors: I. Ballesteros, JM Oliva, A. Gonzalez, M.J. Negro, M. Ballesteros, CIEMAT, Madrid, Spain

3BV.3.23

PROPERTIES AND POSSIBLE APPLICATIONS FOR LIGNIN STREAMS OBTAINED FROM RICE STRAW PROCESSING

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

Co-authors: R.C.A. Castro, I.S. Ferreira, I.C. Roberto, Department of Biotechnology, Engineering College of Lorena, University of São Paulo, Lorena / SP, Brazil

3BV.3.26

VALORISATION OF BLACK LIQUOR CARBOHYDRATES BY MEANS OF HALOALKALINE MICROORGANISMS

Viktoria LEITNER, Kompetenzzentrum Holz, WCB Dpt., AUSTRIA

Co-authors: S. Lehner, F. Gattermayr, Kompetenzzentrum Holz, Linz, Austria

3BV.3.27

BIOFUEL PRECURSORS FROM BEER BAGASSE UNDER MICROWAVE RADIATION.

Andrés MORENO, University of Castilla-La Mancha, Organic Chemistry Dpt., SPAIN

Co-authors: A. Lorente, C. Lucas-Torres, M.P. Sanchez-Verdu, B. Cabañas, UCLM, Ciudad Real, Spain

3BV.3.28

BIOCOMPATIBILITY PROFILING FOR CORNCOB BENEFICIATION TO BIOCOMMODITIES IN MOLTEN ZINC CHLORIDE SALT PRE-TREATMENT MEDIUM

Michael DARAMOLA, University of the Witwatersrand, School of Chemical and Metallurgical Engineering, SOUTH AFRICA

Co-authors: A. A. Awosusi, A. O. Ayeni, University of the Witwatersrand, Johannesburg, South Africa;

R. Adeleke, Agricultural Research Council – Institute for Soil, Climate, Pretoria, South Africa

3BV.3.29

MICROWAVE CATALYTIC CONVERSION OF CELLULOSE INTO BIOFUEL PRECURSORS AND ITS APPLICATION TO LIGNOCELLULOSIC WASTES.

Andrés MORENO, University of Castilla-La Mancha, Organic Chemistry Dpt., SPAIN

Co-authors: C. Lucas-Torres, A. Lorente, M.P. Sánchez-Verdú, B. Cabañas, UCLM, Ciudad Real, Spain

3BV.3.30

OLIVE MILL LEAVES AS A RAW MATERIAL IN A BIOREFINERY APPROACH. COMPARISON OF SUGAR RECOVERIES AFTER DELIGNIFICATION BY ALKALINE-PEROXIDE AND ORGANOSOLV PRETREATMENTS

Encarnacion RUIZ RAMOS, Universidad de Jaen, Chemical, Environmental and Materials Engineering Dpt., SPAIN

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3BV.3.32

CONTRIBUTING TO A JATROPHA-BASED BIOREFINERY: SEED CAKE VALORISATION FOR BIOH2

Rita FRAGOSO, Instituto Superior de Agronomia, Universidade de Lisboa, DCEB Dpt., PORTUGAL

Co-authors: S. Lopes, ISA-UL, Lisboa, Poland; E. Duarte, ISA-UL, Lisboa, Portugal; P. A.S.S. Marques, LNEG, Lisboa, Portugal

3BV.3.33

HYDROTREATING OF BIO-OIL FROM THERMO-CATALYTIC REFORMING - A NOVEL BIOREFINING ROUTE TO RENEWABLE CHEMICALS AND FUEL

Andreas HORNING, Aston University, UNITED KINGDOM

Co-author: N. Schmitt, Fraunhofer Institute for Environmental, Safety, and Energy Technology, Sulzbach-Rosenberg, Germany

3BV.3.35

SAPROPEL AND LIME AS A BINDER FOR DEVELOPMENT OF COMPOSITE MATERIALS

Vaira OBUKA, University of Latvia, Environmental Science Dpt., LATVIA

Co-authors: M. Sinka, Riga Technical University, Latvia; V. Nikolajeva, L. Lazdina, M. Klavins, University of Latvia, Riga, Latvia; S. Kostjukova, LLC Baltic Clay Minerals, Riga, Latvia

3BV.3.36

PRODUCTION OF 1,3-PRODPANEDIOL FROM GLYCEROL USING A NOVEL ISOLATE LACTOBACILLUS REUTERI CH53

Baekrock OH, Korea Research Institute of Bioscience and Biotechnology, KOREA

Co-authors: S.-Y. Heo, J.-H. Ju, J.-W. Seo, C.H. Kim, Korea Research Institute of Bioscience and Biotechnology, Jeongup, Korea

3BV.3.38

A NEW VALUE CHAIN FOR RUBBER AND INULIN PRODUCTION IN THE EUROPEAN BIOECONOMY

Maria HINGSAMER, Joanneum Research Forschungsgesellschaft, AUSTRIA

Co-authors: M. Beermann, G. Jungmeier, JOANNEUM RESEARCH Forschungsgesellschaft, Graz, Austria; I. van der Meer, F. Kappens, Wageningen UR – Food & Biobased Research, Wageningen, The Netherlands; P. van Dijk, Keygene NV, Wageningen, The Netherlands; H. Muyllé, VLAAMS GEWEST, Melle, Belgium; J. Kirschner, BOTANICKY USTAV AV CR, V.V.I., Pruhonice, Czech Republic; N. Gevers, APOLLO TYRES GLOBAL R&D BV, Enschede, The Netherlands

3BV.3.40

SEQUENTIAL UTILIZATION OF SUGARS IN MICROALGAL HYDROLYSATE FOR ETHANOL AND DAGA PRODUCTION

Juyi PARK, Korea Advanced Institute of Science and Technology, Advanced Biomass R&D Center, KOREA

Co-author: Y.K. Chang, Advanced Biomass R&D Center, Daejeon, Korea

3BV.3.41

UTILIZATION OF LIPID-EXTRACTED CHLORELLA VULGARIS HYDROLYSATE BY USING SOLID AND LIQUID ACIDS

Gyeongho SEON, Korea Advanced Institute of Science and Technology, Chemical Bio Engineering Dpt., KOREA

Co-authors: J. Park, H. Joo, Y.K. Chang, KAIST, Daejeon, Korea

3BV.3.42

HYDROLYSIS OF MICROALGAE BY USING LAYERED TRANSITION METAL OXIDE

Soonjae KWON, Korea Advanced Institute of Science and Technology, KOREA
Co-authors: J. Park, Y.K. Chang, Korea Advanced Institute of Science and Technology, Daejeon, Korea

3BV.3.43

IDENTIFICATION OF A NOVEL CELLULOSE-BINDING DOMAIN WITHIN THE ENDO- β -1,4-XYLANASE KRICT PX-3 FROM PAENIBACILLUS TERRAE HPL-003

In Taek HWANG, Korea Research Institute of Chemical Technology, Carbon Resources Institute, KOREA
Co-authors: D.R. Kim, H.K. Lim, K.I. Lee, KRICT, Taejeon, Korea

3BV.3.44

BIOREFINERY: A CRITICAL TECHNICAL REVIEW

Lukas KRATKY, Czech Technical University in Prague, Department of Process Engineering, CZECH REPUBLIC
Co-authors: T. Jirout, A. Kutsay, Czech Technical University in Prague, Faculty of Mechanical Engineering, Department of Process Engineering, Prague, Czech Republic

16:45 - 17:00

BREAK

17:00 - 18:30

ORAL SESSION 4BO.13

Sustainability for Biomass Systems

ROOM: K21

CHAIRPERSONS:

Alexa LUTZENBERGER, ALRENE, GERMANY

Katja OEHMICHEN, DBFZ-German Biomass Research Centre, GERMANY

4BO.13.1

BIOECONOMY WITH ALGAE - LIFE CYCLE SUSTAINABILITY ASSESSMENT INCLUDING BIOPHYSICAL CLIMATE IMPACTS (ALBEDO) OF AN ALGAE-BASED BIUREFINERY

Maria HINGSAMER, Joanneum Research Forschungsgesellschaft, AUSTRIA
Co-authors: N. Bird, I. Kaltenecker, G. Jungmeier, Joanneum Research Forschungsgesellschaft, Graz, Austria; D. Kleinegris, Wageningen UR - Food & Biobased Research, Wageningen, The Netherlands; P. Lamers, Wageningen University, The Netherlands; S. Boussiba, Ben-Gurion University of the Negev, Beer Sheva, Israel; L. Rodolfi, Fotosintetica & Microbiologica S.r.l, Florence, Italy; N.H. Norsker, Biotopic, Huelva, Spain; F. Jacobs, Evodos B.V., Raamsdonksveer, The Netherlands; M. Fenton, Cellulac, Chesterford, United Kingdom; R. Ranjbar, FeyeCon Development and Implementation B.V., Amsterdam, The Netherlands; M. Hujanen, Neste Oil Corporation, Helsinki, Finland; M. Sanz, IDconsortium SL, Madrid, Spain

4BO.13.2

CLEANAIR BY BIOMASS - STATUS QUO ANALYSIS OF THE MODEL REGION

Christoph SCHMIDL, Bioenergy 2020+, Biomass Combustion Dpt., AUSTRIA
Co-authors: F. Klauser, R. Sturmlechner, M. Schwabl, G. Reichert, A. Weissinger, H. Stressler, W. Haslinger, Bioenergy 2020+, Graz, Austria

4BO.13.3

THE GLOBAL BIOENERGY PARTNERSHIP AND ITS SUSTAINABILITY INDICATORS

Marco COLANGELI, GBEP - FAO, Climate and Environment Dpt., ITALY

Co-authors: A. Rossi, M. Morese, Food and Agriculture Organization of the United Nations, Rome, Italy

4BO.13.4

STRENGTHENING THE FOOD SECURITY PROVISIONS IN BIOFUEL SUSTAINABILITY CERTIFICATION SYSTEMS

Stephen THORNHILL, University College Cork, Food Business and Development Dpt., IRELAND

4BO.13.5

COMPARATIVE SOCIO-ECONOMIC INDICATORS FOR SUSTANABLE LIGNOCELLULOSIC BIOMASS IN BRAZIL AND THE SOUTHEAST OF THE USA

Rocio DIAZ-CHAVEZ, Imperial College London, Centre for Environmental Policy, UNITED KINGDOM

Co-authors: A. Walter, Universidade Estadual de Campinas, Campinas, Brazil; P. Gerber, Universidade de Campinas, Camoinas, Brazil

17:00 - 18:30

ORAL SESSION 2BO.14

Advances in Gas Cleaning and Tar Removal from Gasification Gas for Synthesis Gas Production

ROOM: K2

CHAIRPERSONS:

Nikolaos BOUKIS, Karlsruhe Institute of Technology, GERMANY

Donatella Barisano, ENEA, Rotondella, Italy

2BO.14.1

TAR CRACKING OVER OLIVINE AND SAND IN A CELLULAR FLUIDIZED BED REACTOR

Mathieu MORIN, INP Laboratoire de Genie Chimique, FRANCE

Co-authors: X. Nitsch, S. Pecate, M. Hemati, Laboratoire de Genie Chimique, Toulouse, France

2BO.14.2

TAR REMOVAL FROM BIOMASS PRODUCER GAS BY USING BIOCHAR

Giulia RAVENNI, Technical University of Denmark, Chemical Engineering Dpt., DENMARK

Co-authors: J. Ahrenfeldt, U.B. Henriksen, Z. Sárossy, Technical University of Denmark, Roskilde, Denmark

2BO.14.3

BIOMASS GASIFICATION AND BIOSNG PRODUCTION: USE OF SORBENTS FOR SIMULTANEOUS H₂ ENRICHMENT AND CO₂ REMOVAL FOR THE CONDITIONING OF GAS COMPOSITION

Giacobbe BRACCIO, ENEA Research Centre, Solar Testing Laboratory and Biomass Section, ITALY

Co-authors: D. Barisano, R. Agostini, A. Villone, F. Nanna, ENEA Research Centre, Rotondella, Italy; K. Gallucci, P.U. Foscology, University of L'Aquila, Italy

2BO.14.4

REACTIVE TEST GAS GENERATION COMBINED WITH ON-LINE TAR-MONITORING AND COMPARISON WITH OFF-LINE LIQUID SAMPLES ANALYSIS

York NEUBAUER, TU Berlin, Institute of Energy Engineering, GERMANY
Co-authors: A. Gredinger, University of Stuttgart, Germany; J. Borgmeyer, TU Berlin, Germany; M. Kleinhappl, Weiz, Austria; R. Farias Fujita, S.M.A. Biollaz, PSI, Villigen, Switzerland

2BO.14.5

CHAR CONVERSION CHARACTERIZED BY X-RAY TOMOGRAPHY AND SEM-EDS ANALYSIS

Anna STRANDBERG, University of Umea, Applied Physics and Electronics Dpt., SWEDEN
Co-authors: M. Thyrel, R. Backman, N. Skoglund, M. Brostrom, Umea University, Umea, Sweden; M. Rudolfsson, T.A. Lestander, Swedish University of Agricultural Sciences, Umea, Sweden

17:00 - 18:30

ORAL SESSION 3BO.15

Fundamental Investigation of Liquefaction Processes

ROOM: K1

CHAIRPERSONS:

Paul DE WILD, Energy Research Centre of the Netherlands, THE NETHERLANDS
Patrick BILLER, Aarhus University, DENMARK

3BO.15.1

FERMENTATION OF BIO-OIL DERIVED FROM MICROWAVE PYROLYSIS

Emily KOSTAS, University of Nottingham, Microwave Process Engineering Research Group, UNITED KINGDOM
Co-authors: B. Shepherd, J. Robinson, University of Nottingham, United Kingdom

3BO.15.2

CONSTANT VOLUME PYROLYSIS OF BIOMASS FOR THE PRODUCTION OF CHAR WITH HIGH FIXED-CARBON CONTENT.

Maider LEGARRA ARIZALETA, Hawaii Natural Energy Institute, USA
Co-authors: S. Van Wesenbeeck, S. Turn, T. Morgan, M. Antal, Hawaii Natural Energy Institute, Honolulu, USA; O. Skreiberg, L. Wang, SINTEF Energy Research, Trondheim, Norway; G. Grønli, Norwegian University of Science and Technology, Trondheim, Norway

3BO.15.3

THE CHALLENGE OF LIGNIN AS A CHEMICAL RESOURCE

Julia SCHULER, Karlsruhe Institute of Technology, Institute of Catalysis Research and Technology, GERMANY
Co-authors: U. Hornung, J. Sauer, Karlsruhe Institute of Technology, Germany

3BO.15.4

UNDERSTANDING OF RELATIONSHIP BETWEEN LIGNIN STRUCTURE AND DEPOLYMERIZATION BEHAVIORS IN SUPERCRITICAL ETHANOL AND FORMIC ACID MIXTURE

Jaeyong PARK, Sungkyunkwan University, Mechanical Engineering Dpt., KOREA
Co-authors: A. Riaz, J. Kim, Sungkyunkwan University, Suwon, Korea

3BO.15.5

EXPANDING THE FEEDSTOCK BASE FOR THERMOCHEMICAL BIOMASS CONVERSION

Daniel CARPENTER, National Renewable Energy Laboratory, National Bioenergy Center, USA

Co-authors: T. Westover, INL, Idaho Falls, USA; D. Howe, PNNL, Richland, USA; S. Deutch, National Renewable Energy Laboratory, Golden, USA

17:00 - 18:30

ORAL SESSION IBO.16

Large Scale Industrial Application for Heat and Power

ROOM: K23+K24

CHAIRPERSONS:

Yves RYCKMANS, Laborelec, BELGIUM

Jaap KOPPEJAN, Procede Biomass, THE NETHERLANDS

IBO.16.1

GLOBAL WOOD PELLET INDUSTRY AND MARKET - CURRENT DEVELOPMENTS AND OUTLOOK

Daniela THRÄN, DBFZ-German Biomass Research Centre, Bioenergy Systems Dpt., GERMANY

Co-author: D. Peetz, DBFZ-German Biomass Research Centre, Leipzig, Germany

IBO.16.2

CO-FIRING TESTS OF SUGAR CANE HARVESTING RESIDUES (RAC) WITH COAL AND PITH IN A LARGE-SCALE BOILER.

Julian LUCUARA, Cenicana, COLOMBIA

Co-authors: J. Lucuara Medina, A. Gomez, N. Gil Zapata, Cenicaña, Cali, Colombia; J. Castillo, J. Paredes, Ingenio La Cabaña, Cali, Colombia; J. Molina, Carvajal Pulpa Y Papel, Cali, Colombia

IBO.16.3

FACING SAFETY ISSUES IN HANDLING AND STORAGE OF BIOMASS PELLETS IN LARGE SCALE

Jan HINNERSKOV JENSEN, Danish Technological Institute, DENMARK

Co-authors: J. Nyborg, M.G. Jespersen, Danish Technological Institute, Aarhus, Denmark; J.K. Holm, DONG Energy, Gentofte, Denmark

IBO.16.4

HYDROCHAR POTENTIAL APPLICATION IN EUROPEAN STEEL INDUSTRY

Chuan WANG, Swerea MEFOS, SWEDEN

Co-authors: A. Salimbeni, Ingelia, Valencia, Spain; G. Wang, Ingelia/University of Science and Technology, Beijing, P.R. China

IBO.16.5

LARGE SCALE UTILITY CFB TECHNOLOGY IN WORLDS LARGEST GREENFIELD 100% BIOMASS POWER PLANT

Teemu NEVALAINEN, Foster Wheeler Energia, Global Technology Dpt., FINLAND

Co-authors: C. Moqvist, Amec Foster Wheeler Energi, Norrköping, Sweden; T. Eriksson, Amec Foster Wheeler Energia, Espoo, Finland; K. Nuortimo, Amec Foster Wheeler Energi, Varkaus, Finland; M. Nikkilä, Amec Foster Wheeler Energia, Varkaus, Finland

17:00 - 18:30

VISUAL PRESENTATIONS 3BV.4

Advances on Biomass Conversion and Application in Different Sectors

ROOM: Poster Area

CHAIRPERSONS:

Wouter HUIJGEN, Energy Research Centre of the Netherlands, THE NETHERLANDS

Solange MUSSATTO, Technical University of Denmark, DENMARK

Arturo SANCHEZ, Centro de Investigacion y de Estudios Avanzados del IPN, Zapopan, Mexico

3BV.4.1

COMPARING APPROACHES FOR LIGNIN VALORISATION BY FORMIC ACID ASSISTED SOLVOLYSIS - WHAT IS THE BEST OPTION ?

Tanja BARTH, University of Bergen, Chemistry Dpt., NORWAY

Co-authors: M. Oregui Bengoechea, C. Løhre, M. Kleinert, University of Bergen, Norway

3BV.4.9

EUBCE STUDENT AWARDEE PRESENTATION

PRODUCTION OF VALUE-ADDED CHEMICALS THROUGH GLYCEROL AQUEOUS PHASE REFORMING USING NI BASED CATALYSTS: INFLUENCE OF OPERATING CONDITIONS

Clara JARAUTA-CÓRDOBA, Universidad de Zaragoza, Chemical Engineering and Environmental Technologies Dpt., SPAIN

Co-authors: L. García, J. Ruíz, M. Oliva, J. Arauzo, Universidad de Zaragoza, Spain

3BV.4.11

METAL-ORGANIC FRAMEWORKS (MOFS)-DERIVED CATALYSTS FOR AN EFFECTIVE HMF-TO-FDCA AND HMF-TO-DMF CONVERSIONS

Jyun-yi YEH, National Taiwan University, Chemical Engineering Dpt., TAIWAN

Co-author: K.C.W. Wu, National Taiwan University, Taipei, Taiwan

3BV.4.12

ETHYLENE GLYCOL PRODUCTION FROM GLUCOSE OVER W-RU CATALYSTS: MAXIMIZING YIELD BY KINETIC MODELING AND SIMULATION

Mingyuan ZHENG, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, P.R. CHINA

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3BV.4.15

CATALYTIC CONVERSION OF ETHYLENE FROM BIOMASS GASIFICATION PRODUCER GAS INTO VALUABLE AROMATIC COMPOUNDS

Berend VREUGDENHIL, Energy Research Centre of the Netherlands, Bio Energy & Efficiency Dpt., THE NETHERLANDS

Co-authors: Y.-T. Kuo, Industrial Technology Research Institute of Taiwan, Chutung, Hsinchu, Taiwan; G. Aranda Almansa, Energy Research Centre of the Netherlands, Petten, The Netherlands; M. Lok, Catalok, Den Haag, The Netherlands

3BV.4.17

REUSABLE HETEROGENEOUS AMBERLYST-16 CATALYST FOR ACETIC ACID ESTERIFICATION

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

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3BV.4.18

HETEROGENEOUSLY CATALYSED ACETYLATION OF GLYCEROL TOWARDS TRIACETIN IN BATCH AND CONTINUOUS MODE

Udo ARMBRUSTER, Leibniz Institute for Catalysis at University of Rostock, GERMANY

Co-authors: S. Kale, A. Martin, LIKAT, Rostock, Germany

3BV.4.21

PREPARATION AND CHARACTERIZATION OF SOLID SUPERBASIC-SUPERACIDIC CATALYSTS FOR BIODIESEL SYNTHESIS USING CATALYZED TRANSESTERIFICATION

Chao-Lung CHIANG, Yuan Ze University, Chemical Engineering and Material Science Dpt., TAIWAN

Co-authors: K.S. Lin, C.W. Shu, H.Y. Chan, Yuan Ze University, Taoyuan, Taiwan; J.C.S. Wu, K.C.W. Wu, National Taiwan University, Taipei, Taiwan; Y.T. Huang, Chung Yuan Christian University, Taoyuan, Taiwan

3BV.4.22

SYNTHESIS AND CHARACTERIZATION OF MESOPOROUS POLYMER-BASED SOLID ACID CATALYSTS FOR BIODIESEL PRODUCTION VIA TRANSESTERIFICATION OF PALMITIC OIL

Kuen-Song LIN, Yuan Ze University, Department of Chemical Engineering & Materials, TAIWAN

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3BV.4.23

ACTIVITY AND SELECTIVITY OF NOBLE AND TRANSITION METAL CATALYSTS FOR HDO OF LIGNIN MONOMER MODEL COMPOUND EUGENOL: A MICROKINETIC APPROACH

Ana BJELIC, National Institute of Chemistry, Chemical Engineering Dpt., SLOVENIA REPUBLIC

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3BV.4.24

DIRECT CONVERSION OF CELLULOSE TO HIGH-YIELD METHYL LACTATE OVER GA-DOPED ZN/H-NANOZEOLITE Y CATALYSTS IN SUPERCRITICAL METHANOL

Jaehoon KIM, Sungkyunkwan University, School of Mechanical Engineering & SKKU Advanced Institute of Nano Technology, KOREA

Co-author: D. Verma, Sungkyunkwan University, SuwonSuwon, Korea

3BV.4.26

IMPROVED FEASIBILITY OF THE BIOMASS SUPPLY CHAIN THROUGH SOLAR ENHANCED DRYING

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3BV.4.27

HYDROGEN PRODUCTION VIA STEAM REFORMING OF SIMULATED BIO-OIL: INFLUENCE OF INTERACTION BETWEEN MODEL COMPOUNDS

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3BV.4.30

NANOBIOCATALYTIC SYSTEMS AS EFFICIENT TOOL TO RELEASE BIOACTIVE COMPOUNDS FROM OLIVE OIL BY-PRODUCTS

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

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3BV.4.31

EFFECT OF COMPOSTED BIOMASS MOISTURE ON PELLETTED FERTILIZERS FROM SWINE MANURE SOLID FRACTION

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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3BV.4.33

NOVEL SYNTHESIS OF 1,6-HEXANEDIOL UNDER MILD CONDITIONS AND TWO STEPS UTILIZING METAL ORGANIC FRAMEWORK DERIVED BIFUNCTIONAL CARBON SUPPORTED NOBLE METAL WITH LIQUID HYDROGEN SOURCE

Jyun-yi YEH, National Taiwan University, Chemical Engineering Dpt., TAIWAN

3BV.4.36

PRODUCTION OF REACTIVE BOTTOM ASHES FROM COMBUSTION OF SUGARCANE LEAVES BRIQUETTES IN A FIXED BED REACTOR FOR USE AS A CEMENTITIOUS MATERIAL

Estela ASSUREIRA, Pontificia Universidad Católica del Perú, Engineering Dpt., PERU
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3BV.4.37

EMISSIONS AND PERFORMANCE OF A DIESEL ENGINE FUELLED WITH BLENDS OF DIESEL AND BIODIESEL ADDITIVATED WITH BIO-OIL

Alberto GONZALO CALLEJO, Universidad de Zaragoza, Aragón Institute for Engineering Research (I3A), SPAIN

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3BV.4.38

PRODUCTION OF A BIO-PLASTIC FROM WET LIGNOCELLULOSIC RESIDUAL FEEDSTOCKS WITH HYDROTHERMAL CARBONIZATION AS KEY-STEP

Michael RENZ, Universitat Politècnica de València, Institute of Chemical Technology, SPAIN

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3BV.4.39

PURPOSEFUL FUNCTIONALIZATION OF WASTE HARDWOOD LIGNOCELLULOSES FOR MAKING RECYCLED POLYMER-BASED COMPOSITES

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3BV.4.40

CAN BIOBASED CHEMICALS BE PRODUCED VIA THE PATHWAY OF ANAEROBIC DIGESTION? A FIRST OVERVIEW.

Eric BILLIG, Umweltforschungszentrum UFZ, Bioenergie Dpt., GERMANY

3BV.4.41

SYNTHESIS, PHYSICO-CHEMICAL PROPERTIES OF DBU/CH₃OH/CO₂ AND ITS UTILIZATION IN DISSOLVING BIOMASS

Houfang LU, Sichuan University, Chemical Engineering Dpt., P.R. CHINA

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3BV.4.42

SORPTION ENHANCED CHEMICAL LOOPING REFORMING PROCESS OF BIOGAS FOR CLEANER HYDROGEN PRODUCTION

Amornchai ARPORNWICHANOP, Chulalongkorn University, Chemical Engineering Dpt., THAILAND

Co-authors: S. Kasemanand, P. Tippawan, Chulalongkorn University, Bangkok, Thailand

3BV.4.43

ACTIVATED CARBON PRODUCTION FROM WOOD BASED PANELS WASTE AND ITS APPLICATION AS AN ADDITIVE OF UREA FORMALDEHYDE RESIN

Saeed KAZEMI NAJAFI, Tarbiat Modares University, Wood & Paper Science & Technology Dpt., IRAN

Co-authors: R. Zamani, H. Younesi, Tarbiat Modares University, Tehran, Iran

3BV.4.47

PRODUCTION OF BACTERIAL CELLULOSE USING OPUNTIA AND CITRUS WASTE AS FEEDSTOCKS

Diego ROMANO, University of Milan, Food, Environmental and Nutritional Sciences - DeFENS Dpt., ITALY

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3BV.4.48

PROPERTIES OF BIOCHAR PRODUCED BY SLOW PYROLYSIS OF STABILIZED SEWAGE SLUDGE

Jaroslav MOSKO, Czech Academy of Sciences, Institute of Chemical Process Fundamentals, SLOVAK REPUBLIC

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3BV.4.49

PERSPECTIVES OF HIGH-VALUED CHEMICAL PRODUCTION FROM MARINE FUNGAL-LIKE PROTISTS

Guangyi WANG, Tianjin University, Environmental Science & Ecology Dpt., P.R. CHINA

Co-author: Q. Wang, Tianjin University, Tianjin, P.R. China

3BV.4.50

DEGRADATION OF LIGNIN IN IONIC LIQUID WITH MESOPOROUS SOLID ACIDS AS CATALYSTS

Man JIANG, Southwest Jiaotong University, School of Materials Science and Engineering, P.R. CHINA

Co-author: G. Gou, South West Jiaotong University, Chengdu, P.R. China

3BV.4.51

CRYSTAL-PLANE EFFECT OF CERIA ON THE ACTIVITY OF CU/CEO2 FOR OXIDATIVE STEAM REFORMING OF METHANOL

Sivinee PETCHAKAN, The Petroleum and Petrochemical College, Petrochemical technology, THAILAND

Co-authors: A. Luengnaruemitchai, S. Wongkasemjit, The Petroleum and Petrochemical College, Bangkok, Thailand

3BV.4.53

PREPARATION OF LIGNIN BLEND BEADS FOR THE REMOVAL OF HEXAVALENT CHROMIUM IONS

Ki Hoon LEE, Seoul National University, Research Institute of Agriculture and Life Sciences, KOREA

Co-authors: H.W. Kwak, M. Shin, H.C. Woo, H. Yun, Seoul National University, Korea

3BV.4.54

ESTABLISHING A VALUE CHAIN FOR PRODUCTION OF A PLATFORM CHEMICAL AND CURRENT OUT OF PAPER TOWELS

Tina KLESSING, Karlsruhe Institute of Technology, Institute for Applied Biosciences, GERMANY

Co-author: J. Gescher, Karlsruhe Institute of Technology - Institute for Applied Biosciences, Karlsruhe, Germany

3BV.4.57

INTEGRATED BIOCONVERSION OF ALGAL CARBOHYDRATES AND PROTEINS TO LIQUID FUELS AND INTERMEDIATE VALUE PRODUCTS

Mary TRAN-GYAMFI, Sandia National Lab, USA

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CONFERENCE PROGRAMME
TUESDAY, 13 JUNE 2017

TUESDAY
PM

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
I 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 VAPER 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

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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

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3CV.1.19

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

Luigia LONA, ENEA, DTE Dpt., ITALY

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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, Enviromental 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 SHEMAFE, 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. Fausson, 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. Umeki, 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. Maltoglou, 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

Co-authors: S. Sukumara, E. Özdemir, K. Schneider, P. Calero, S. Li, C. Ronda, A.T. Nielsen, Novo Nordisk Foundation, Center for Biosustainability, Technical University of Denmark, Lyngby, Denmark

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

Co-authors: L. Botella, N. Gil-Lalaguna, A. Gonzalo, J.L. Sánchez, J. Arauzo, Universidad de Zaragoza / Aragón Institute for Engineering Research (I3A), Zaragoza, Spain; M. Ramos, Universidad de Zaragoza, Zaragoza, Spain

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

Co-authors: S. Pedrazzi, M. Puglia, N. Morselli, P. Tartarini, BEELab (Bio energy efficiency laboratory), Department of Engineering, University of Modena and Reggio, Modena, Italy; J. Mason, ALL Power Labs, Berkeley, Usa

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

Co-authors: D. Basso, A. Gasparella, M. Baratieri, Free University of Bozen-Bolzano, Bolzano, Italy; W. Tirlir, EcoResearch srl, Bolzano, Italy; S. Dal Savio, IDM Südtirol - Alto Adige, Bolzano, Italy; A. Rizzo, D. Chiaramonti, RE-CORD Consortium, Firenze, Italy

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

Co-authors: S. Sanchez Delgado, Universidad Carlos III de Madrid, Leganes, Spain; A. Horvat, University of Limerick, Limerick, Ireland

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. Grigiante, 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

Co-authors: F. Petracchini, National Research Council of Italy - Institute of Atmospheric Pollution Research, Monterotondo, Italy; C. Lo Piano, Sapienza University of Rome, Rome, Italy; L. Longo, M. Carnevale, F. Gallucci, Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria - Ingegneria agraria (I), Monterotondo, Italy; A. Colantoni, Università della Tuscia, Viterbo, Italy

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

Co-authors: J. Francois, C. Pelletier, A. Dufour, CNRS, Nancy, France

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

Sonia L. RINCON PRAT, National University of Colombia, Mechanical and Mechatronics Engineering Dpt., COLOMBIA

Co-authors: D.C. Guío-Pérez, L.E. Cáceres Martínez, P. Hartwig, Universidad Nacional de Colombia, Bogotá, COLOMBIA

2CV.3.35

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

Chootrakul SIRIPAIBOON, Kasetsart University, Mechanical Engineering Dpt., THAILAND

Co-authors: P. Sarabhorn, W. Siwakosit, C. Plengsa-ard, C. Areeprasert, Kasetsart University, Bangkok, Thailand

2CV.3.37

VAPOR-PHASE REACTIONS OF CELLULOSE GASIFICATION

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

Co-authors: A. Fukutome, S. Saka, Kyoto University, Japan

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

Co-authors: N. Cerone, L. Contuzzi, V. Valeria, ENEA Research Centre, Rotondella, ITALY; M.S. Celiktas, Ege University Solar Energy Institute, Izmir, TURKEY

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

Co-authors: D. Bove, M. Baratieri, Free University of Bozen-Bolzano, Italy; C. Moliner, B. Bosio, E. Arato, University of Genova, Italy; M. Curti, G. Rovero, Polytechnic of Turin, Italy

2CV.3.49

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

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

Co-author: C. Yin, Aalborg University, Denmark

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

Co-authors: S. Fendt, H. Spliethoff, Institute for Energy Systems, Munich, Germany

2CV.3.54

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

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

Co-authors: A. Galvagno, University of Messina, Messina, Italy; O. Karlstrom, A. Brink, Abo Akademi, Turku, Finland; N. Cerone, F. Zimbardi, ENEA, Matera, Italy

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

Co-authors: M.A. Nahil, P.T. Williams, University of Leeds, United Kingdom

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

Co-authors: R. Gabbrielli, M. Seggiani, University of Pisa - DIC1, Pisa, Italy

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

Co-author: A. Luengnaruemitchai, The Petroleum and Petrochemical College, Chulalongkorn University, Bangkok, Thailand

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

Co-authors: P. Rangsunvigit, B. Kittiyanan, The Petroleum and Petrochemical College, Chulalongkorn University, Bangkok, Thailand; S. Kulprathipanja, UOP, A Honeywell Company, Des Plaines, Illinois, Usa

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

Co-authors: R. Bados, L.S. Esteban, P. Perez, I. Mediavilla, M.J. Fernandez, R. Barro, R. Corredor, J.E. Carrasco, CEDER-CIEMAT, Soria, Spain; L. Maqueda, CEDER-CIEMAT, Soria, Spain

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

Co-authors: N.P. McNamara, R.L. Rowe, Centre for Ecology & Hydrology, Lancaster, United Kingdom; R. Ceulemans, University of Antwerp, Belgium; C.E.P. Cerri, University of Sao Paulo, Brazil; C.J. Bernacchi, University of Illinois, Illinois, Usa

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
Co-authors: A.F. Torres, A.J.B. van boxtel, L.M. Trindade, Wageningen University and Research, The Netherlands

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
Co-authors: G. De Guido, L. A. Pellegrini, Polytechnic of Milan, Italy

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

Co-authors: K. Lenz, S. Kuehner, K. Ludewig, SYNCOM, Ganderkesee, Germany; W. Baumgarten, FNR, Gülzow, Germany; M. Gomez, D. Garcia, CIRCE, Zaragoza, Spain; A. Claluena, LWK Niedersachsen, Hannover, Germany; F. de Filippi, Sogesca, Rubano, Italy; J. Dolezal, CZBiom, Praha, Czech Republic; J. Lorenzo, Local action group Bajo Aragon-Matarrana, GanderkeseeTorrevelilla Teruel, Spain; L. Montagnoli, Comunità Montana Associazione dei Comuni, Magione, Italy

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

Co-authors: D. Boscaro, A. Pezzuolo, L. Sartori, Università degli Studi di Padova, Dipartimento Territorio e Sistemi Agro-Forestali (TESAF), Padova, Italy; C. Bisaglia, Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria, Unità di ricerca per, Treviglio, Italy; F. Trabacchin, F. Berti, BERTI Macchine Agricole S.p.A., Caldiero, Italy

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

Co-authors: N. Akter, R. Faria, S. Sharmin, Esho Jati Gorhi (EJAG), Faridpur, Bangladesh

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

Co-author: R.R. Li, China Agricultural University, Beijing, P.R. China

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

Co-authors: M. Sonnleitner, M. Goldbrunner, Technische Hochschule Ingolstadt, Ingolstadt, Germany; T. Janus, De Monfort University, Leicester, United Kingdom; F. Conti, University of Padova, Italy

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

Co-authors: B.P. de Oliveira, L.H. dos Santos Oliveira, Universidade Federal do ABC, Santo André, Brazil

2CV.4.18

ANAEROBIC DIGESTION OF ENERGY BEETS

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

Co-authors: I. Plume, Latvia University of Agriculture, Jelgava, Latvia; J. Vinters, ZS Ligo, Lielplatone, Latvia

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

Co-authors: B. Schumacher, J. Liebetrau, DBFZ-German Biomass Research Centre, Leipzig, Germany

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

Co-authors: J Lee, SG Shin, J Shin, POSTECH, Pohang, Korea

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

Co-authors: S. Kälber, L. Leible, G. Kappler, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

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

Co-authors: A. Gallipoli, M. Di Carlo, A. Gianico, D. Montecchio, P. Pagliaccia, IRSA-CNR, Monterotondo (Roma), Italy; C. Pastore, IRSA-CNR, Bari, Italy; F. Gironi, University of Rome, Italy

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

Co-authors: J. Shin, S. Hwang, Pohang University of Science and Technology, Pohang, Korea; B.-C. Park, Hyundai Steel Company, Dangjin, Korea

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

Co-authors: F. Petracchini, F. Liotta, M. Perilli, A. Bencini, National Research Council of Italy - Institute of Atmospheric Pollution Research, Monterotondo, Italy; D. Cerioni, Social Energy srl, Guidonia, Italy; F. Gallucci, M. Carnevale, Consiglio per la Ricerca in Agricoltura e l'Analisi dell'Economia Agraria, Unità di Ricerca per l'In, Monterotondo, Italy

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

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

2CV.4.44

THE USE OF THE HYDRODYNAMIC CAVITATION FOR DISINTEGRATION OF LIGNOCELLULOSIC BIOMASS

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

Co-authors: M. Zielinski, M. Debowski, A. Cydzik-Kwiatkowska, A. Glowacka-Gil, P. Rusanowska, University of Warmia and Mazury, Olsztyn, Poland

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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CONFERENCE PROGRAMME

WEDNESDAY, 14 JUNE 2017

WEDNESDAY
PM

CONFERENCE PROGRAMME
WEDNESDAY, 14 JUNE 2017

WEDNESDAY
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THURSDAY	09:00	2DO.1 T2.6	4DO.2 T4.3	3DO.3 T3.1	1DV.1 T1.1/1.2/ 1.5	EXHIBITION
	10:30	Break				
	10:45	2DO.4 T2.6	4DO.5 T4.3	3DO.6 T3.3	1DV.2 T1.3/1.4/ 1.6	
	12:15	Lunch Break				
	13:30	3DO.7 T3.4	4DO.8 T4.4	3DO.9 T3.1	IDV.3 Industry	
	15:00	Break				
	15:15	<p align="center">Conference Closing</p> <p align="center">Keynote presentation The highlights of the conference Panel discussion Student awards 2017 - Poster awards 2017 Conclusions</p>				
16:45						

<p>1 Biomass Resources</p> <ul style="list-style-type: none"> T1.1 Biomass potentials and biomass mobilisation T1.2 Biomass feedstock, residues and by-products T1.3 Biomass crops and energy grasses T1.4 Algae production systems T1.5 Municipal and industrial wastes T1.6 Integrated biomass production for energy purposes
<p>2 Biomass Conversion Technologies for Heating, Cooling and Electricity</p> <ul style="list-style-type: none"> T2.6 Anaerobic digestion for biogas production
<p>3 Biomass Conversion Technologies for fuels, chemicals and materials</p> <ul style="list-style-type: none"> T3.1 Production of thermally treated solid biofuels T3.3 Oil-based biofuels T3.4 Biomethane
<p>4 Biomass Policies, Markets and Sustainability</p> <ul style="list-style-type: none"> T4.3 Environmental impacts of bioenergy T4.4 Resource efficient bioeconomy and social opportunities
<p>I Industry Sessions</p> <ul style="list-style-type: none"> 6.1 Biomass Resources (Crops, SRF, Algae and Organic Waste) 6.2 Thermochemical conversion processes 6.3 Power & Heat processes and systems 6.4 Biochemical Conversion 6.5 Policy

09:00 - 10:30

ORAL SESSION 2DO.1

Challenges of Various Biogas Feedstocks

ROOM: K21

CHAIRPERSONS:

Jens Bo HOLM-NIELSEN, Aalborg University, DENMARK

Alessandro AGOSTINI, ENEA Research Centre, ITALY

2DO.1.1

WHEAT STRAW AS A MATERIAL IN CO-DIGESTION WITH OTHER NITROGEN-RICH SUBSTRATE

Swarnima AGNIHOTRI, University of Borås, The Swedish Centre for Resource Recovery, SWEDEN

Co-authors: I.S. Horváth, HB-Högskolan i Borås, Borås, Sweden; M. Castillo, HB-Högskolan i Borås, Uppsala, Sweden

2DO.1.2

CLIMATE AND ECONOMIC PERFORMANCES OF ANAEROBIC DIGESTION OF SECOND CHEESE WHEY. A CASE STUDY

Giuseppe LEMBO, ENEA Research Centre, Biomass and Biotechnology for Energy, ITALY

Co-authors: A. Agostini, A. Signorini, ENEA, Rome, Italy

2DO.1.3

MONO-FERMENTATION OF CHICKEN MANURE: COMPETING WITH AMMONIA INHIBITION AND A HIGH CONTENT OF INORGANIC SOLIDS

Franziska SCHAEFER, DBFZ-German Biomass Research Centre, Biochemical Conversion Dpt., GERMANY

Co-authors: L. Mueller, DBFZ-German Biomass Research Centre, Leipzig, Germany; R. Reiter, A. Himmelstoss, AEV Energy GmbH, Dresden, Germany; J. Proeter, DBFZ Deutsches Biomasseforschungszentrum gemeinnützige GmbH, Leipzig, Germany

2DO.1.4

ENHANCING BIOGAS PRODUCTION FROM SHRIMP PROCESSING WASTE THROUGH ENRICHMENT OF THE MICROBIAL COMMUNITY

Giulia MASSINI, ENEA Research Centre, Biomass and Bioenergy, ITALY

Co-authors: A. Gaetani, G. Dottorini, La Sapienza University - ENEA, Rome, Italy; V. Mazzurco Miritana, G. Lembo, La Tuscia University - ENEA, Rome, Italy; A. Signorini, V. Pignatelli, ENEA, Rome, Italy

2DO.1.5

BIOGAS PRODUCTION FROM ORGANIC WASTES IN KOREA: WASTE CHARACTERISTICS, APPLICABILITY OF ANAEROBIC CO-DIGESTION AND UNDERLYING MICROBIAL POPULATIONS

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

Co-authors: G. Han, J. Lee, J.V. Tongco, J. Shin, T. Koo, S. Hwang, J.Y. Lee, Pohang University of Science and Technology, Pohang, Korea

09:00 - 10:30

ORAL SESSION 4DO.2

Ecosystem Services and Soil Impacts of Bioenergy

ROOM: K2

CHAIRPERSONS:

Luisa MARELLI, European Commission, JRC, ITALY

Jan Peter LESSCHEN, Alterra Wageningen UR, THE NETHERLANDS

4DO.2.1

WHERE IS THE ENVIRONMENTAL BREAK-EVEN POINT OF MARGINAL LAND USE FOR BIOMASS PRODUCTION?

Moritz WAGNER, University of Hohenheim, Institute of Crop Science, GERMANY

Co-author: I. Lewandowski, University of Hohenheim (340b), Stuttgart, Germany

4DO.2.2

UNDERSTANDING SOIL CARBON STORAGE ACROSS HETEROGENEOUS LANDSCAPES: CARBON OFFSETS AND SUSTAINABILITY OF TROPICAL BIOMASS PRODUCTION SYSTEMS

Susan E. CROW, University of Hawaii at Manoa, Natural Resources and Environmental Management Dpt., USA

Co-authors: J.M. Wells, J. Deenik, K. Carlson, A. Hashimoto, University of Hawaii at Manoa, Honolulu, Usa; C. Sierra, Max Plank Institute for Biogeochemistry, Jena, Germany

4DO.2.3

CONVERSION AND REVERSIONS: IMPACTS ON SOIL CARBON STOCKS OF LAND USE CHANGE TO AND FROM PERENNIAL BIOENERGY CROPS IN THE UK

Rebecca ROWE, Centre for Ecology and Hydrology, Shore Dpt., UNITED KINGDOM

Co-authors: A.K. Keith, D.M.O. Elias, J. Whitaker, N.P. McNamara, Centre for Ecology & Hydrology, Lancaster, United Kingdom

4DO.2.4

QUANTIFYING THE POTENTIAL CONTRIBUTION TO CLIMATE CHANGE MITIGATION FROM TEMPORARY CARBON STORAGE IN HYDROCHARS

Mikolaj OWSIANIAK, Technical University of Denmark, Management Engineering Dpt., DENMARK

Co-author: M. Renz, Universitat Politècnica de València, Spain

4DO.2.5

A SPATIALLY EXPLICIT OVERVIEW OF THE IMPACTS OF WOOD PELLET RELATED PINE PLANTATION EXPANSION ON SPECIES RICHNESS IN THE SOUTHEASTERN U.S.

Hanneke VAN T VEEN, Universiteit Utrecht, Environmental Biology Dpt., THE NETHERLANDS

Co-authors: A. Duden, P. Verweij, Copernicus Institute of Sustainable Development, Utrecht, The Netherlands

09:00 - 10:30

ORAL SESSION 3DO.3

Thermally Treated Solid Biomass - Fundamentals

ROOM: K1

CHAIRPERSONS:

Capucine DUPONT, CEA, FRANCE

Anders NORDIN, Umeå University, SWEDEN

3DO.3.1

TORREFACTION ANALYSIS OF WOODY BIOMASSES FROM FAST-GROWING PLANTATIONS OF COSTA RICA

Allen PUENTE-URBINA, Costa Rica Institute of Technology, COSTA RICA

Co-authors: R. Moya, A. Rodríguez-Zúñiga, J. Gaitán-Álvarez, Escuela de Ingeniería Forestal, Instituto Tecnológico de Costa Rica., Cartago, Costa Rica

3DO.3.2

CATALYTIC EFFECT OF POTASSIUM CARBONATE ON CONDENSABLE SPECIES RELEASED DURING WOOD TORREFACTION

Jean-Michel COMMANDRE, CIRAD, France

Co-authors: L. Alves de Macedo, P. Rousset, J. Valette, CIRAD, Montpellier, France; M. Pétrissans, Université de Lorraine, Nancy, France

3DO.3.3

THE PRESSURE INFLUENCE ON BIOCARBON YIELD AND QUALITY

Øyvind SKREIBERG, SINTEF Energy Research, Thermal Energy Dpt., NORWAY

Co-authors: L. Wang, SINTEF Energy Research, Trondheim, Norway; M. Grønli, NTNU, Trondheim, Norway

3DO.3.4

VALORIZATION OF SOLID RESIDUES FROM ANAEROBIC DIGESTION THROUGH THERMAL AND HYDROTHERMAL CARBONIZATION PROCESSES

Edoardo MILIOTTI, University of Florence, ITALY

Co-authors: D. Casini, M. Prussi, D. Chiaramonti, L. Bettucci, RE-CORD, Firenze, Italy

3DO.3.5

MICROWAVE PRE-PROCESSING OF BIOMASS PELLETS FOR CLEANER HEAT ENERGY PRODUCTION

Inesa BARMINA, University of Latvia, Institute of Physics, LATVIA

Co-authors: R. Valdmanis, M. Zake, Institute of Physics, University of Latvia, Salaspils, Latvia

09:00 - 10:30

VISUAL PRESENTATIONS 1DV.1

Quantifying Biomass Availability for Bioenergy and Biomass Characterisation Studies. Municipal and Industrial Biowaste Innovations in Processing and Products

ROOM: Poster Area

CHAIRPERSON:

Peter KUIKMAN, Alterra Wageningen UR, THE NETHERLANDS

Gianni FACCIOTTO, CREA- Council for Agricultural Research & Economics, Casale Monferrato, Italy

1DV.1.1

SUSTAINABLE BIOMASS PRODUCTION ON MARGINAL LANDS (SEEMLA)

Wibke BAUMGARTEN, FNR - Agency for Renewable Resources, EU/International Affairs, GERMANY

Co-authors: W. Gerwin, F. Repmann, BTU, Cottbus, Germany; N. Rettenmaier, IFEU, Heidelberg, Germany; F. Kiourtsis, D. Keramitzis, DAMT, Thessaloniki, Greece; S. Galatsidas, N. Gounaris, DUTH, Komotini, Greece; O. Hanzhenko, V. Ivanina, IBC&SB NAAS, Kiev, Ukraine; K. Bogatov, I. Gnap, SALIX, Kiev, Ukraine; F. Barbera, D. Mattioli, Legambiente, Rome, Italy

1DV.1.2

ASSESSMENT OF SHRUB BIOMASS AVAILABILITY AND ENVIRONMENTAL IMPACTS OF ITS HARVESTING FOR ENERGY PURPOSES: A METHODOLOGICAL APPROACH IN THE MEDITERRANEAN

Borja Daniel GONZALEZ-GONZALEZ, INIA, SPAIN

Co-authors: H. Sixto, A. Vajzquez, F. Montes, M Sanchez-Gonzalez, I. Canellas, INIA, Madrid, Spain

1DV.1.3

SHORT ROTATION WOODY CROPS: EXPERIENCES FROM THE EU PROJECT SRCPLUS

Dominik RUTZ, WIP, Biomass Unit, GERMANY

Co-authors: R. Mergner, J.M. Ugalde, WIP, Munich, Germany; R. Janssen, WIP Renewable Energies, Munich, Germany; S. Hinterreiter, Biomassehof Achenal, Grassau, Germany; I. Eleftheriadis, Centre for Renewable Energy Sources and Saving, Athens, Greece; A. Zandeckis, Ekodoma, Riga, Latvia; Z. Fistrek, B. Kulisic, Energy Institute Hrvoje Pozar, Zagreb, Croatia; T. Perutka, Energy Agency of the Zlín region, Zlín, Czech Republic; D. Lazdina, Latvian State Forest Research Institute Silava, Salaspils, Latvia; N. Toskovski, G. Toskovska, Secondary School Car Samoil - Resen, Resen, Macedonia; I. Dimitriou, Swedish University of Agricultural Sciences, Uppsala, Sweden; A. Leplus, J. Bernard, Association d'Initiatives Locales pour l'Energie et l'Environnement, Rennes, France

1DV.1.6

CHARACTERIZATION OF BRAZILIAN SUGARCANE BAGASSE AND SUGARCANE STRAW BASED ON EUROPEAN METHODOLOGIES TO EVALUATE THE POTENTIAL FOR ENERGY CONVERSION

Caroline CARRIEL SCHMITT, Karlsruhe Institute of Technology, IKFT Dpt., GERMANY

Co-authors: R. Moreira, P. Coelho Tambani, A. Hakuu Ushima, Institute for Technological Research, Sao Paulo, Brazil; R. Cruz Neves, Brazilian Bioethanol Science and Technology Laboratory, Sao Paulo, Brazil; A. Funke, K. Raffelt, Karlsruhe Institute of Technology, Karlsruhe, Germany

1DV.1.7

SPATIAL BIOMASS SUPPLY OF FAST-GROWING PLANTATIONS FOR ENERGY

Blas MOLA, University of Eastern Finland, FINLAND

Co-authors: B. Mola-Yudego, UEF/SLU, Joensuu, Finland; I. Dimitriou, SLU, Uppsala, Sweden

1DV.1.8

ASSESSING BIOMASS RESOURCES FROM OLIVE OIL PRODUCTION IN SPAIN

Paloma MANZANARES, CIEMAT, Biofuels Unit, Renewable Energy Division, SPAIN
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1DV.1.14

ENERGY CROPS FOR THE TROPICS AND SUBTROPICS

Andrew HASHIMOTO, University of Hawaii at Manoa, Molecular Biosciences and Bioengineering Dpt., USA
Co-authors: R. Ogoshi, S. Crow, University of Hawaii, Honolulu, Usa

1DV.1.16

BIOENERGY DEVELOPMENT AS A SUSTAINABLE ENERGY TO COUNTER ENERGY CRISIS IN BANGLADESH

Muntasir MURSHED, North South University, School of Business and Economics, BANGLADESH
Co-author: S.B. Amin, North South University, Dhaka, Bangladesh

1DV.1.21

BIOMASS DEMAND POINT LOCATION ANALYZE AT REGIONAL LEVEL AGENT-BASED SIMULATION

Mika AALTO, Lappeenranta University of Technology, Laboratory of Bioenergy, FINLAND
Co-authors: O.-J. Korpinen, T. Ranta, Lappeenranta University of Technology, Mikkeli, Finland

1DV.1.22

COMPOSTING OF DIFFERENT AGRICULTURAL BY-PRODUCTS WITH RAW DIGESTATE: PRELIMINARY CONSIDERATIONS ABOUT TECHNICAL FEASIBILITY

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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1DV.1.25

VACUUM TECHNOLOGY FOR WOODCHIPS DRYING

Vaclav MAREK, University of West Bohemia, Mechanical Engineering Dpt., CZECH REPUBLIC

1DV.1.27

REGIONAL BIOMASS POTENTIALS FROM AIRBORNE LASER SCANNING DATA, CASE SOUTH-EAST FINLAND

Mika LAIHANEN, Lappeenranta University of Technology, LUT Energy Dpt., FINLAND
Co-authors: A. Karhunen, T. Ranta, Lappeenranta University of Technology, Finland

1DV.1.28

A BI-OBJECTIVE MODEL TO LOCATE SEVERAL BIO-REFINERIES AND OPTIMIZE THEIR SUPPLIES

Nasim ZANDI ATASHBAR, University of Technology of Troyes, FRANCE
Co-authors: N. Labadie, C. Prins, University of Technology of Troyes, Troyes, France

1DV.1.30

COMPARATIVE STUDY OF TIME INVESTMENT ON COOKING ENERGY FUEL TRANSITION IN RURAL INDIA AND NEPAL

Karabee DAS, University of Groningen, IVEM, ESRIG Dpt., THE NETHERLANDS
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1DV.1.32

AGRICULTURAL AND FOREST RESIDUES IN PERU: POTENTIAL FOR BIOENERGY USE

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1DV.1.35

EUBCE STUDENT AWARDEE PRESENTATION

HOW TO PRESERVE THE ENERGY POTENTIAL OF ORGANIC RESIDUES DURING STORAGE? FOCUS ON ANAEROBIC DIGESTION

Ruben FRANCO, Université de Lyon, INSA Lyon, DEEP Research Group, FRANCE
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1DV.1.36

VANE TORQUE TESTER FOR FOREST BIOMASS

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1DV.1.38

WOODY BIOMASS FOR ENERGY USE FROM RESIDUES AND WASTE OF FOREST UTILISATIONS AND PRUNING WOODY CROPS IN ITALY

Domenico COALOA, CREA-Council for Agricultural Research and Economics, Trasformazioni Industriali Dpt., ITALY
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1DV.1.39

MECHANICAL PROPERTIES OF GRANULAR BIOMASS DETERMINED IN VANE TORQUE TESTER

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1DV.1.41

ENERGY-EFFICIENT COLD-AIR VENTILATION OF COARSE WOOD CHIPS FROM SHORT ROTATION COPPIC

Ralf PECENKA, Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB), Post Harvest Dpt., GERMANY
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1DV.1.42

MECHANICAL EXTRACTION AND RECOVERY OF ROOTSTOCKS FROM END LIFE ORCHARDS TO PRODUCE BIOENERGY

Luigi PARI, CREA- Council for Agricultural Research and Economics, Unità di Ricerca per l'Ingegneria Agraria - CREA-ING, ITALY
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1DV.1.43

A PRELIMINARY ANALYSIS ON THE POTENTIAL BIOENERGY PRODUCTION FROM AGRO-FORESTRY CROPS AND RESIDUES IN ANGOLA

Ana Luisa FERNANDO, Universidade Nova de Lisboa, Ciências e Tecnologia Biomassa Dpt., PORTUGAL

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1DV.1.48

AMBIENT DRYING OF EUCALYPTUS GRANDIS IN HAWAII: EXPERIMENTAL AND MODEL RESULTS

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1DV.1.50

CONCEPTUAL DESCRIPTION OF INTEGRATED BIOMASS LOGISTICAL CENTRES (IBLCS)

Bert ANNEVELINK, Wageningen Food & Biobased Research, Biorefinery & Sustainable Value Chains Dpt., THE NETHERLANDS

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1DV.1.55

CHARACTERIZATION OF TORREFIED BIOMASS AND CO-FIRING EXPERIMENTAL INVESTIGATION IN PILOT SCALE COMBUSTION SYSTEM

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1DV.1.58

BENCHMARKING DIFFERENT TREATMENT METHODS FOR ORGANIC MUNICIPAL SOLID WASTE

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1DV.1.59

BIOMASS-CONCEPTS FOR TOURISM AREAS

Gerold HAFNER, University of Stuttgart, ISWA - Institute for Sanitary Engineering, Water Quality and Solid Waste Management Dpt., GERMANY

1DV.1.61

ECONOMIC EVALUATION OF THE PRODUCTION AND UTILIZATION OF BIO-FERTILIZERS FROM ORGANIC WASTE DIGESTATES IN COMPARISON TO MINERAL FERTILIZERS

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1DV.1.62

A FOUR-STEP GASIFICATION-COMBUSTION PROCESS FOR THE CLEAN CONVERSION OF MSW

Ruizhi ZHANG, Shanghai Jiao Tong University, Institute of Thermal Energy Engineering, P.R. CHINA

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1DV.1.63

DEMAND-ORIENTED GENERATION OF SEWAGE GAS FROM ORGANIC WASTE MATERIAL BY CO-FERMENTATION OF LIQUID COMPONENTS IN SEWAGE SLUDGE DIGESTERS

Philipp PILSL, University of Stuttgart, Institute for Sanitary Engineering, Water Quality and Solid Waste Management, GERMANY

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1DV.1.66

TECHNOLOGY OF DRYING AND CHARACTERISTICS OF SOLID REFUSE FUEL FROM ORGANIC WASTES WITH HIGH WATER CONTENTS

Tae-In OHM, Hanbat National University, Civil & Environmental Engineering Dpt., KOREA

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1DV.1.68

CHARACTERIZATION OF ASHES FROM MSW INCINERATION PLANTS

Liang WANG, SINTEF Energy Research, Thermal Energy Dpt., NORWAY

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1DV.1.72

ORGANIC WASTE AND RESOURCE MANAGEMENT IN TOURISM AREAS

Dominik LEVERENZ, University Stuttgart, Institute for Sanitary Engineering, Water Quality and Solid Waste Management, GERMANY

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1DV.1.73

PERFORMANCE AND MICROBIAL DYNAMICS OF FULL-SCALE WASTEWATER TREATMENT PLANT THAT DIVERSIFIED DENITRIFICATION CARBON SOURCE BY USING TWO ORGANIC WASTES

Seokhwan HWANG, Pohang University of Science and Technology, KOREA

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1DV.1.74

COMPARISON OF DIFFERENT METHODS TO DETERMINE THE SOLIDS CONTENT FOR MSW CHARACTERIZATION

Aline RUIZ, Universidade Federal do ABC, BRAZIL

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1DV.1.76

CYCLONE DRYING OF SECONDARY SLUDGE FROM PULP AND PAPER MILLS

Alejandro GRIMM, Swedish University of Agricultural Sciences, Forest Biomaterials and Technology Dpt., SWEDEN

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1DV.1.79

INTERNAL PELLET DENSITY HETEROGENEITY VIEWED IN 3D USING X-RAY TOMOGRAPHY

Mikael THYREL, Swedish University of Agricultural Sciences, Forest Biomaterials and Technology Dpt., SWEDEN

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1DV.1.83

ROLE OF EFFICIENT MICROORGANISMS IN RAPID COMPOSTING OF KITCHEN WASTE

Ritika PATHAK, Indian Institute of Technology, Centre for Rural Development and Technology, INDIA

Co-authors: S. Sharma, R. Prasad, Indian Institute of Technology, Delhi, India

09:00 - 15:00

WORKSHOP

Future Biorefineries from raw materials to bio-products: development and analysis

10:30 - 10:45

BREAK

10:45 - 12:15

ORAL SESSION 2DO.4

Biogas Feedstock Pre-treatment, Process and System Integration
ROOM: K21

CHAIRPERSONS:

Bernhard DROSG, Bioenergy 2020+, AUSTRIA

Tormod BRISEID, NIBIO - Norwegian Institute of Bioeconomy Research, NORWAY

2DO.4.1

SIMULATION OF DEMAND-ORIENTED BIOGAS PRODUCTION BY A SIMPLIFIED KINETIC MODEL

Soeren WEINRICH, DBFZ-German Biomass Research Centre, GERMANY

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2DO.4.2

EFFECTS OF ALKALINE AND BEATING PRETREATMENT ON ANAEROBIC DIGESTION OF DISTILLERY CO-PRODUCTS

Burcu GUNES, Dublin City University, School of Biotechnology, IRELAND

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2DO.4.3

EFFECTS OF ANAEROBIC DIGESTION AND HOT WATER PRETREATMENT ON LIGNIN

Jon WELLS, University of Hawai at Manoa, Natural Resources and Environmental Management Dpt., USA

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2DO.4.4

HEAD-SPACE GAS PRESSURE DRIVEN ACIDOGENESIS OF FOOD WASTE IN LEACH BED REACTOR

Jonathan WONG, Hong Kong Baptist University, Sino-Forest Applied Research Centre for Pearl River Delta Environment, HONG KONG

2DO.4.5

MODELLING AND PERSPECTIVES OF TWO-STAGE PRESSURIZED FERMENTATION

Katharina BÄR, DVGW-Research Centre at Engler-Bunte-Institute, GERMANY

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10:45 - 12:15

ORAL SESSION 4DO.5

Ecosystems and Water Impacts of Bioenergy

ROOM: K2

CHAIRPERSONS:

Uwe FRITSCHÉ, IINAS, GERMANY

Calliope PANOUTSOU, Imperial College, UNITED KINGDOM

4DO.5.1

EVALUATING THE WATER IMPACTS & BENEFITS OF BIOMASS PRODUCTION FOR BIOENERGY - DEVELOPING A SUSTAINABILITY INDICATOR ANALYSIS METHODOLOGY

Andrew WELFLE, University of Manchester, United Kingdom

4DO.5.2

CAN THE CULTIVATION OF PERENNIAL BIOMASS CROPS ON BUFFER STRIPS BECOME A WIN-WIN STRATEGY? LIFE CYCLE ASSESSMENT AND ENERGY PERFORMANCE.

Alessandro AGOSTINI, ENEA Research Centre, ITALY

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4DO.5.3

BRAZILIAN SUGARCANE EXPANSION AND THE IMPACTS ON WATER RESOURCES: A REVIEW OF THE RECENT RESULTS

Thayse HERNANDES, CTBE - Brazilian Bioethanol Science and Technology Laboratory, Agricultural Division, BRAZIL

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4DO.5.4

INFLUENCE OF DEVELOPMENT OF FUEL ETHANOL ON WATER RESOURCES

Fangyu DING, Chinese Academy of Sciences, Institute of Geographical Sciences and Natural Resources Research, P.R. CHINA

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4DO.5.5

BIOENERGY AND BIODIVERSITY LOSS: WHAT WE KNOW, WHAT WE DON'T KNOW AND WHAT WE CAN ESTIMATE.

Jacopo GIUNTOLI, European Commission, JRC, Directorate C: Energy, Transport and Climate, THE NETHERLANDS

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10:45 - 12:15

ORAL SESSION 3DO.6

Oil-based Biofuels

ROOM: K1

CHAIRPERSON:

Dimitrios SIDIRAS, University of Piraeus, GREECE

3DO.6.1

CATALYTIC HYDROPROCESSING OF GROUND COTTONSEEDS IN A COTTONSEED OIL AND I-OCTANE SOLVENT TO PRODUCE RENEWABLE DIESEL

Corneels SCHABORT, North-West University, School of Chemical and Minerals Engineering, SOUTH AFRICA

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3DO.6.2

EVALUATION OF GHG EMISSIONS AND ENERGY BALANCES OF INNOVATIVE AVIATION BIOFUEL PATHWAYS

Adrian O'CONNELL, European Commission, JRC, ITALY

Co-authors: M. Kousoulidou, L. Lonza, A. O'Connell, JRC-European Commission, Ispra, Italy

3DO.6.3

UPSCALING AND OPERATION OF A BIOMASS DERIVED FISCHER-TROPSCH PILOT PLANT PRODUCING 1 BARREL PER DAY

Jürgen LOIPERSBÖCK, Bioenergy 2020+, AUSTRIA

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3DO.6.4

GREEN DIESEL PRODUCTION FROM THE PALM OIL DEOXYGENATION OVER METAL-BASED NANOCATALYSTS

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

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3DO.6.5

THE EFFECT OF FATTY ACID STRUCTURES ON PRODUCT DISTRIBUTION OF CATALYTIC CRACKING

Verina WARGADALAM, Ministry of Energy and Mineral Resources, P3TKEBTKE Division, INDONESIA

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10:45 - 12:15

VISUAL PRESENTATIONS 1DV.2

Dedicated Bioenergy Crops from Planting to Harvesting and Novel Production Systems. Potential and Impact of Algae Production

ROOM: Poster Area

CHAIRPERSONS:

Neeta SHARMA, ENEA Research Centre, ITALY

Scott TURN, University of Hawaii, USA

Luigi PARI, CREA- Council for Agricultural Research and Economics, ITALY

1DV.2.1

GENETIC DIVERSITY OF ELEPHANTGRASS ECOTYPES FOR BIOENERGY PRODUCTION

João DO AMARAL SANTOS DE CARVALHO ROCHA, Federal University of Vicosa, BRAZIL

Co-authors: J.R.A.S.C. Rocha, P.C.S. Carneiro, Universidade Federal de Viçosa, Brazil; R.A.D.C. Ferreira, Universidade Federal de Viçosa, Viçosa, Brazil; J.C. Carneiro, J.C. Machado, Embrapa Gado de Leite, Juiz de Fora, Brazil

1DV.2.2

MOLECULAR MECHANISM OF RESPONSE AND ADAPTATION OF THE ENERGY PLANT JATROPHA CURCAS L. TO COLD STRESS

Ming GONG, Yunnan Normal University, School of Life Sciences, P.R. CHINA

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1DV.2.3

BREEDING NEW VARIETY OF CAMELINA SATIVA ADAPTED TO TEMPERATE CONTINENTAL CLIMATE

Florentina MATEI, University of Agronomical Sciences, Biotechnologies Dpt., ROMANIA

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1DV.2.5

DETERMINATION OF IMPORTANT TRAITS FOR SEED OIL OF GARDEN CRESS (LEPIDIUM SATIVUM L.) AS A POTENTIAL FOR BIODIESEL PRODUCTION

Naser SABAGHNIA, University of Maragheh, Plant Breeding Dpt., IRAN

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1DV.2.6

VEGETATIVE PROPAGATION OF ULMUS PUMILA L. BY STEM CUTTINGS WITH A VIEW TO THE DEVELOPMENT OF BRED LINES FOR WOODY BIOMASS PLANTATIONS

Pedro V. MAURI ABLANQUE, IMIDRA, Investigación Agroambiental Dpt., SPAIN
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1DV.2.7

ASSESSMENT OF OPTIMAL PLANT DENSITY FOR SWITCHGRASS TRANSPLANTS OBTAINED BY THE FLOAT SYSTEM

Enrico CEOTTO, CREA- Council for Agricultural Research and Economics, ITALY
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1DV.2.10

POPLAR SHORT-ROTATION COPPICE IN SOUTHERN ITALY

Gianni FACCIOTTO, CREA- Council for Agricultural Research & Economics, Foreste e Legno Dpt., ITALY
Co-authors: G. Nervo, S. Bergante, CREA, Casale Monferrato, Italy

1DV.2.13

PERENNIAL GRASSES: BIOMASS QUALITY AND YIELD COMPARISON OF 12 DIFFERENT SPECIES IN THE NORTHERN GREAT PLAINS OF THE UNITED STATES

Carlos Sixto CIRIA RAMOS, CIEMAT, Biomasa Dpt., SPAIN
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1DV.2.15

ENERGY CROPS: HERBACEOUS PERENNIAL IN PRODUCTION WITH DIFFERENT FERTILIZERS IN THE CENTER OF SPAIN

Pedro V. MAURI ABLANQUE, IMIDRA, Investigación Agroambiental Dpt., SPAIN
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1DV.2.16

EVALUATION OF NEW PERENNIAL GRASSES FOR BIOMASS PRODUCTION ITALY

Gianni FACCIOTTO, CREA- Council for Agricultural Research & Economics, Foreste e Legno Dpt., ITALY
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1DV.2.17

PATH ANALYSIS OF BIOMASS AND SEED YIELD OF GARDEN CRESS FOR HIGH BIODIESEL PRODUCTION

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1DV.2.18

EVALUATION OF BIOMASS QUALITY OF ENDEMIC PLANTS OF CAPE VERDE AIMING ITS POSSIBLE USE FOR FIBER AND ENERGY PRODUCTION

Maria Paula DUARTE, Universidade NOVA de Lisboa, Ciências e Tecnologia da Biomassa Dpt., PORTUGAL
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1DV.2.21

COMBINING HARVEST DATE AND CUTTING HEIGHT TO OPTIMIZE THE SUSTAINABILITY OF MISCANTHUS PRODUCTION FOR ENERGY IN THE MEDITERRANEAN REGION

Ana Luisa FERNANDO, Universidade Nova de Lisboa, Ciências e Tecnologia Biomassa Dpt., PORTUGAL

1DV.2.22

RESPONSE OF THE ENERGY GRASS GIANT REED TO THREE HARVEST STRATEGIES: CROP GROWTH RATE AND DRY MATTER YIELD

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1DV.2.23

USE OF A FLEXIBLE BAR IN STONY SOIL

Luigi PARI, CREA- Council for Agricultural Research and Economics, Unità di Ricerca per l'Ingegneria Agraria - CREA-ING, ITALY

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1DV.2.24

PROTOTYPE FOR UNLOADING FRESH BIOMASS FROM SILO-BAGS

Alberto ASSIRELLI, CRA - Agricultural Research Council, ITALY

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1DV.2.25

INNOVATIVE SYSTEM FOR INDUSTRIAL HEMP HARVESTING

Alberto ASSIRELLI, CRA - Agricultural Research Council, ITALY

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1DV.2.26

JATROPHA CURCAS L. HARVESTING METHODS: AN ECONOMIC ASSESSMENT

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1DV.2.32

EFFECT OF BLUE LIGHT ON GROWTH AND OIL ACCUMULATION IN THE MODEL GREEN MICROALGA CHLAMYDOMONAS REINHARDTII

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

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1DV.2.35

OPTIMIZATION OF MICROALGAE CULTURE CONDITIONS FOR BETTER QUALITY BIODIESEL PRODUCTION

Xiaoling MIAO, Shanghai Jiao Tong University, School of Life Sciences & Biotechnology, P.R. CHINA

1DV.2.37

MICROALGAE AS A WATER TREATMENT SYSTEM FOR RECIRCULATING FISH WATER POOL

Katariina LAHTI, Helsinki University, Environmental Sciences Dpt., FINLAND
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1DV.2.41

AQUATIC WEEDS AS BIOMASS SOURCE: THE HARVESTING TECHNIQUE IN NORTH ITALY

Luigi PARI, CREA- Council for Agricultural Research and Economics, Unità di Ricerca per l'Ingegneria Agraria - CREA-ING, ITALY
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1DV.2.42

SALTGAE: ALGAL TREATMENT OF SALINE WASTE WATER COUPLED WITH BIOGAS PRODUCTION AND BIOMASS VALORISATION

Giuliano GRASSI, Secretary General, European Biomass Industry Association, BELGIUM
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1DV.2.44

ENVIRONMENTAL IMPACTS ASSESSMENT OF ALTERNATIVE MICROALGAL BIOFUELS SYSTEMS

Jacopo GIUNTOLI, European Commission, JRC, Directorate C: Energy, Transport and Climate, THE NETHERLANDS
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1DV.2.46

ALGAL BIOPROSPECTING TO FEEDSTOCK PRODUCTION: THE TRINIDAD AND TOBAGO CASE STUDY

Trina HALFHIDE, University of the West Indies, Life Sciences, TRINIDAD AND TOBAGO REPUBLIC
Co-author: A. Mohammed, University of the West Indies, St Augustine, Trinidad And Tobago Republic

1DV.2.50

ENHANCING THE QUALITY AND QUANTITY OF PANICUM MAXIMUM JACQ. BIOMASS BY EMPLOYING BENEFICIAL ACC DEAMINASE PRODUCING RHIZOBACTERIA UNDER ABIOTIC STRESS CONDITION FOR BIOENERGY APPLICATIONS

Garima TIWARI, Indian Institute of Technology, Centre For Rural Development And Technology, INDIA
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1DV.2.51

PERFORMANCE OF COW DUNG MIXED WITH GROUND EUCALYPTUS SPECIES LEAVES AS ENERGY IN RURAL WESTERN KENYA

David WANGA, Egerto University, KENYA
Co-author: R. Wambua, Egerto University, Nakuru, Kenya

1DV.2.52

COST AND PROFITABILITY FOR ROTATIONAL GRASS/CLOVER AS BIOGAS FEEDSTOCK: A SWEDISH SCENARIO STUDY

Carina GUNNARSSON, SP Technical Research Institute of Sweden, Food and Bioscience Dpt., SWEDEN

Co-authors: P. Tidaker, SP Technical Research Institute of Sweden, Uppsala, Sweden; H. Rosenqvist, Consultant, Billeberga, Sweden

1DV.2.56

SIMPLIFICATION OF OIL PRODUCTION PROCEDURES THROUGH MEDIATION OF FENTON REACTION AND ELECTRO-COAGULATION-FLOTATION (ECF)

Ahreum YANG, Korea Advanced Institute of Science and Technology, Chemical & Biomolecular Engineering Dpt., KOREA

Co-authors: J.I. Han, Y.K. Chang, Korea Advanced Institute of Science and Technology, Daejeon, Korea

1DV.2.58

EFFECT OF SERIAL SUBCULTURING ON THE ADAPTIVE POTENTIAL OF DUNALIELLA SALINA STRAIN KU11

Wipawee DEJTISAKDI, King Mongkut's Institute of Technology Ladkrabang, Biology Dpt., THAILAND

Co-authors: P. Pantong, P. Thinthunthong, V. Sriwisat, Department of Biology, Faculty of Science, King Mongkut's Institute Technology of Ladkrabang, Bangkok, Thailand

1DV.2.59

CONTINUOUS CULTIVATION OF MICROALGAE AS AN EFFICIENT METHOD TO IMPROVE CARBOHYDRATE PRODUCTIVITY AND BIOCHEMICAL STABILITY

Carlos Eduardo DE FARIAS SILVA, University of Padua, Industrial Engineering Dpt., ITALY

Co-authors: E. Sforza, A. Bertucco, University of Padova, Italy

1DV.2.60

MARGINAL LAND FOR GROWING INDUSTRIAL CROPS: TURNING A BURDEN INTO AN OPPORTUNITY

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

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

1DV.2.61

POTENTIAL USE OF NON-FOOD CROPS IN HEAVY METAL (-LOIDS) PHYTOEXTRACTION

Eleni KOUKOUNA, Agricultural University of Athens, Crop Science Dpt., GREECE

Co-author: E.G Papazoglou, Agricultural University of Athens, Greece

1DV.2.63

MICROALGAE BIOMASS PRODUCTION FROM ANAEROBIC EFFLUENT

Marcos Vinicius NOGUEIRA LAVAGNOLI PEREIRA, UFES - Federal University of Espírito Santo, Environmental Engineering Dpt., BRAZIL

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1DV.2.65

QUANTITATIVE AND QUALITATIVE BIOMASS PRODUCTION POTENTIAL OF GIANT REED MUTANTS UNDER RAINFED AND IRRIGATED CONDITIONS

Walter ZEGADA-LIZARAZU, University of Bologna, Department of Agricultural Science, ITALY

Co-authors: S. Salvi, G. Di Girolamo, A. Monti, University of Bologna, Bologna, Italy

1DV.2.66

FORAGE BIOMASS: A THERMAL ENERGY SOURCE IN THE CEMENT MANUFACTURING PROCESS

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

Co-authors: M. Mitiko Onoyama, J. Dilcio Rocha, D. Keiji Nakai, E. Santos Silva, J.M. Cabral de Sousa Dias, Embrapa - Brazilian Agriculture Research Corporation, Brasilia, Brazil; S. Susuki, InterCement, São Paulo, Brazil

12:15 - 13:30

LUNCH

13:30 - 15:00

ORAL SESSION 3DO.7

Processes for Biomethane Production

ROOM: K21

CHAIRPERSONS:

Eric BILLIG, Umweltforschungszentrum UFZ, GERMANY

David BAXTER, Former European Commission, Joint Research Centre, UNITED KINGDOM

3DO.7.1

THE BIOMETHANE MAP - RESEARCH COORDINATION FOR A LOW-COST BIOMETHANE PRODUCTION AT SMALL AND MEDIUM SCALE APPLICATIONS

Kathrin BIENERT, DBFZ-German Biomass Research Centre, GERMANY

Co-authors: E. Fischer, B. Schumacher, DBFZ-German Biomass Research Centre, Leipzig, Germany; G. Rogstrand, M. Blom, JTI - Swedish Institute of Agricultural and Environmental Engineering, Uppsala, Sweden; M. Marcin, M. Marcin, University of Warmia and Mazury in Olsztyn, Olsztyn, Poland

3DO.7.2

EFFICIENT SMALL-SCALE PLANTS UPGRADING BIOGAS - POTENTIAL ANALYSIS AND ECONOMIC ASSESSMENT

Jaqueline DANIEL-GROMKE, DBFZ-German Biomass Research Centre, Biochemical Conversion Dpt., GERMANY

Co-authors: G. Erdmann, UFZ, Leipzig, Germany; V. Denysenko, N. Rensberg, DBFZ-German Biomass Research Centre, Leipzig, Germany; J. Hüttenrauch, DBI, Leipzig, Germany; R. Erler, DBI, Freiberg, Germany; M. Beil, IWES, Kassel, Germany

3DO.7.3

COMPARED PERFORMANCE OF TRICKLE-BED AND FLUIDIZED BED BIOREACTORS FOR SYNGAS BIO-UPGRADING INTO RNG

Ruxandra ALBU CIMPOIA, National Research Council Canada, Energy, Mining and Environment Dpt., CANADA

Co-authors: S.R. Guiot, C.D. Dubé, G. Bruant, M.J. Lévesque, National Research Council Canada, Montreal, Canada

3DO.7.4

EXPERIMENTAL OPTIMIZATION OF AN INNOVATIVE BIOGAS UPGRADING PROCESS ADAPTED TO THE AGRICULTURAL CONTEXT

Valentin FOUGERIT, CentraleSupélec, FRANCE

Co-authors: J. Lemaire, M.-A. Theoleyre, M. Stambouli, CentraleSupélec, Pomacle, France

3DO.7.5

IS BIO-P2G TECHNOLOGICALLY ATTRACTIVE AS CONTRIBUTION TOWARDS BALANCING THE SUPPLY AND DEMAND OF RENEWABLE ENERGY?

Gert HOFSTEDE, Hanze University of Applied Sciences, iLST Dpt., THE NETHERLANDS

Co-authors: F. Faber, J.P.H. Nap, M.E.F. Apol, R. Wedema, Hanze University of Applied Sciences, Groningen, The Netherlands

13:30 - 15:00

ORAL SESSION 4DO.8

Future Insights to Resource Efficient Value Chains

ROOM: K2

CHAIRPERSONS:

Rocio DIAZ-CHAVEZ, Imperial College, UNITED KINGDOM

Marc LONDO, Energy Research Centre of the Netherlands, THE NETHERLANDS

4DO.8.1

BIOMASS POTENTIALS AND THE SDGS: ADDING A FOOD SECURITY, SUSTAINABILITY AND DISTRIBUTIVE JUSTICE PERSPECTIVE

Tina BEUCHELT, University of Bonn, Center for Development Research, GERMANY

Co-author: M. Nassl, Center for Development Research (ZEF), Bonn, Germany

4DO.8.2

A SUSTAINABLE BIOECONOMY FOR EUROPE: KEY RESULTS FROM THE EU FP7 PROJECT S2BIOM

Uwe FRITSCHKE, IINAS, Scientific Director, GERMANY

Co-authors: C. Panoutsou, Imperial College, London, United Kingdom; B. Elbersen, I. Straritsky, Alterra/WUR, Wageningen, The Netherlands; L. Wenzelides, FNR, Güstrow, Germany; M. Dees, ALU-FR, Freiburg, Germany; N. Forsell, IIASA, Laxenburg, Austria; M. Lindner, J. Fitzgerald, EFI, Joensuu, Finland; L. Pelkmans, VITO, Mol, Belgium; R. Janssen, WIP, Munich, Germany; P. Canciani, CEI, Trieste, Italy; E. Alakangas, VTT, Jyväskylä, Finland; L. Iriarte, IINAS, Madrid, Spain; M. Londo, Energy Research Centre of the Netherlands, Amsterdam, The Netherlands; B. Kavalov, European Commission, JRC, Ispra, Italy; P. Anttila, LUKE, Helsinki, Finland; J. van Stralen, Energy Research Centre of the Netherlands, Petten, The Netherlands; T. Lammens, M. Vis, BTG, Enschede, The Netherlands

4DO.8.3

THE PARIS -LIFESTYLE - ANALYSIS AND ASSESSMENT OF BIOMASS USE FOR LOW CARBON LIFESTYLES TO REACH THE CLIMATE TARGETS 2050

Gerfried JUNGMEIER, Joanneum Research Forschungsgesellschaft, Research Centre for Climate, Energy and Environment, AUSTRIA

Co-authors: G. Lettmayer, N. Bird, S. Schwarzinger, Joanneum Research, Graz, Austria

4DO.8.4

THE BALANCE BETWEEN FUTURE INCREASED POTENTIAL SUPPLY AND DEMAND OF SUSTAINABLE BIOMASS -THE CASE STUDY OF SWEDEN

Pål BÖRJESSON, Lund University, Environmental and Energy Systems Studies Dpt., SWEDEN

Co-authors: J. Hansson, IVL Swedish Environmental Research Institute, Stockholm, Sweden; G. Berndes, Chalmers University of Technology, Göteborg, Sweden

4DO.8.5

BIOBUILDER - CREATE A BIOBASED VALUE CHAIN FROM A-TO-Z

Ruben GUISSON, VITO - Flemish Institute Technological Research, Biomass Sustainable Transition Dpt., BELGIUM

Co-author: M. Van Dael, VITO/UHasselt, Mol/Hasselt, Belgium

13:30 - 15:00

ORAL SESSION 3DO.9

Thermally Treated Solid Biomass - Processes and Biochar Applications

ROOM: K1

CHAIRPERSONS:

Jaap KIEL, Energy Research Centre of the Netherlands, THE NETHERLANDS

Corneels SCHABORT, North-West University, SOUTH AFRICA

3DO.9.1

PERFORMANCE ASSESSMENT OF A PILOT AUTOTHERMAL CARBONIZATION UNIT

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

Co-authors: M. Pettorali, R. Nistri, D. Chiamonti, RE-CORD/University of Florence, Florence, Italy

3DO.9.2

THE INFLUENCE AND IMPLICATIONS OF RECYCLING HYDROTHERMAL PROCESS WATERS ON HYDROCHAR COMBUSTION CHEMISTRY

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

Co-author: A.B. Ross, University of Leeds, Leeds, United Kingdom

3DO.9.3

CARBOWERT: LIFE CYCLE ASSESSMENT OF DIFFERENT HYDROTHERMAL CARBONIZATION CONCEPTS PRODUCING COAL FOR ENERGETIC AND MATERIAL USE

Kathleen MEISEL, DBFZ-German Biomass Research Centre, Bioenergy Systems Dpt., GERMANY

Co-authors: A. Clemens, DBFZ-German Biomass Research Centre, Leipzig, Germany; E. Schulz, UFZ, Halle, Germany; C. Fühner, UFZ, Leipzig, Germany

3DO.9.4

TECHNICAL AND ECONOMIC FEASIBILITY OF COMBUSTING BIOCARBON IN SMALL SCALE PELLET BOILERS

Pietro BARTOCCI, University of Perugia, Biomass Research Centre, ITALY

Co-authors: R.S. Kempegowda, Ø. Skreiberg, SINTEF Energy Research, Trondheim, Norway; F. Liberti, G. Bidini, F. Fantozzi, University Perugia, Italy

3DO.9.5

BIOCHARS AS SOURCE OF ANODES FOR NA-ION BATTERIES: FEASIBILITY STUDY BASED ON VARIOUS BIOMASS TYPES

Capucine DUPONT, CEA, FRANCE

Co-authors: C. Del Mar Saavedra Rios, V. Simone, L. Simonin, CEA, Grenoble, France

13:30 - 15:00

VISUAL PRESENTATIONS IDV.3

Industrial Innovations in Feedstock Production, Power, Biogas and Advanced Biofuels Generation

ROOM: Poster Area

CHAIRPERSON:

Enrico CEOTTO, CREA- Council for Agricultural Research and Economics, ITALY

IDV.3.4

QUALITY GUIDELINES OF WOOD CHIPS AND HOG FUELS - APPLYING INTERNATIONAL SOLID BIOFUELS STANDARDS

Eija ALAKANGAS, VTT Technical Research Centre of Finland, Renewable Energy Processes Dpt., FINLAND

IDV.3.6

PREDICTING BIOMASS YIELDS OF CORN STOVER FROM SATELLITE IMAGING IN EASTERN CANADA

Charles LALONDE, Ontario Federation of Agriculture, CANADA

Co-authors: M. Wellisch, J. Lui, J. Shang, T. Huffman, A. Davidson, Agriculture and AgriFood Canada, Ottawa, Canada

IDV.3.8

FOREST PLANTATION AND HARVESTING SYSTEMS FOR EUCALYPTUS BIOMASS INVESTMENTS IN FLORIDA USA

Tom WILLIAMS, Harvest Logistics, USA

Co-author: J. Wright, Durania, Boone NC, Usa

IDV.3.9

SELF-PROPELLED BIOMASS HARVESTER MACHINE FOR PRUNING RESIDUES REMOVAL AND PRE-PROCESSING IN ORCHARDS AND VINEYARDS

Maurizio CUTINI, CREA, ITALY

Co-authors: M. Brambilla, C. Bisaglia, Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria, Unità di ricerca per, Treviglio, Italy; G. Rota, G. Minuti, R. Sargiani, CAEB International, Petosino di Sorisole, Italy

IDV.3.10

OPERATIONAL AND DESIGN PARAMETERS OF MICROALGAE CULTIVATION SYSTEMS FOR ITS APPLICATION IN INDUSTRIAL SCALE

Vojtech BELOHLAV, Czech Technical University in Prague, Process Engineering Dpt., CZECH REPUBLIC

Co-authors: T. Jirout, Czech Technical University in Prague, Czech Technical University in Prague, Prague, Czech Republic; L. Krátký, Czech Technical University in Prague, Prague, Czech Republic

IDV.3.12

BUSH ENCROACHMENT IN NAMIBIA - TURNING AN ENVIRONMENTAL HAZARD INTO A SOCIO-ECONOMIC OPPORTUNITY

Dagmar HONSBEIN, Namibia Biomass Industry Group, NAMIBIA

Co-author: C.M. Lindeque, N-BiG, Windhoek, Namibia

IDV.3.13

BIOHYDROGAS. A NEW TECHNOLOGY FOR PRODUCING H₂

Francisco GARCIA CARRO, Magna Dea, SPAIN
Co-author: S. Solis Gutierrez, Magna Dea, Oviedo, Spain

IDV.3.14

EFFICIENT WAY TO PRODUCE BIOFUELS FROM MUNICIPAL SOLID WASTES

Annarita SALLADINI, Processi Innovativi, ITALY
Co-authors: G. Iaquaniello, KT-Kinetics Technology s.p.a., Roma, Italy; E. Antonetti, Processi Innovativi, Roma, Italy; L. Spadacini, OESA, Rome, Italy

IDV.3.21

REMOTE CONDITION MONITORING OF AUTOMATED BIOMASS POWER STATIONS

Michael HASTINGS, Brüel & Kjaer Vibro, DENMARK
Co-authors: R. Schellbach, Stadtwerke Leipzig, Leipzig, Germany; G. Ceglarek, Brüel & Kjaer Vibro, Darmstadt, Germany; M. Hastings, Brüel & Kjaer Vibro, Nærum, Denmark

IDV.3.22

INNOVATIVE APPROACH AND TECHNICAL DEVELOPMENT ABOUT SOLID BIOMASS UTILIZATION FOR POWER PLANT BOILERS IN IHI

Hidekazu KASAI, IHI Corporation, Business Development Dpt., JAPAN
Co-authors: M. Tamura, F. Tamamushi, IHI Corporation, Tokyo, Japan; S. Ueno, IHI Corporation, Yokohama, Japan; S. Miyamae, IHI Power System Malaysia, Kuala Lumpur, Malaysia

IDV.3.24

EXPERIMENTAL AND NUMERICAL STUDY ON TWO-STAGE COMBUSTION PROCESS OF SYNGAS FUELS WITH HIGH CONTENT OF NITROGEN BOUNDED COMPOUNDS

Pawel CZYZEWSKI, Poznan University of Technology, Chair of Thermal Engineering, POLAND
Co-authors: R. Slefarski, J. Jojka, Poznan University of Technology, Poznan, Poland; R. Jankowski, ICS Industrial Combustion System, Poznan, Poland

IDV.3.26

AN EFFICIENT PAPER SLUDGE HYDROLYSIS METHOD USING WHOLE CELL BIOCATALYSTS, RENDERING PAPER SLUDGE IDEAL FOR BIOGAS PRODUCTION.

Murat BALABAN, Episome Biotechnologies, TURKEY
Co-authors: F. Kart, G. Gorgulu, M.B. Kilinc, Episome Biotechnologies, Kocaeli, Turkey

IDV.3.31

BIOETHANOL PRODUCTION BY CRUDE GLYCEROL FERMENTATION

Annarita SALLADINI, Processi Innovativi, ITALY
Co-authors: B. Maschicchi, B. Morico, F. Martorelli, G. Iaquaniello, A. Zarli, Processi Innovativi, Rome, Italy

IDV.3.34

CHALLENGES IN SCALING UP AN NON-ENZYMATIC PROCESS FOR THE PRODUCTION OF SECOND GENERATION SUGARS

Jean-Michel LAVOIE, Université de Sherbrooke, Chemical Engineering Dpt., CANADA
Co-authors: X. Duret, J.K.W. Chang, T. Ghislain, J. Lessard, I.Z. Boboescu, CRIEC-B, Sherbrooke, Canada

IDV.3.35

BIORESCUE: ENHANCED BIOCONVERSION OF AGRICULTURAL RESIDUES THROUGH CASCADING USE

Ines DEL CAMPO, CENER, Biomass Energy Dpt., SPAIN

Co-authors: I. Alegria, CENER, Sarriguren, Spain; D. Gaffney, C. Forde, Monaghan, Ireland

IDV.3.36

PAVING THE WAY FOR A NEXT GENERATION BIOBUTANOL (BUTANEXT)

Ines DEL CAMPO, CENER, Biomass Energy Dpt., SPAIN

Co-authors: I. Alegria, CENER, Sarriguren, Spain; T. Davies, J. Hewitt, Greenbiologics, Oxford, United Kingdom

IDV.3.37

TECHNICAL PRODUCTION PROCESS FOR INNOVATIVE ANTIOXIDANTS USING NOVEL ENZYMES AS BIOCATALYST

Axel GOTTSCHALK, SUPREN, GERMANY

Co-authors: S. Adam, S. Tlatlik, Supren, Dortmund, Germany

IDV.3.39

CONCEPT STUDY FOR "MANURE-TO-ELECTRICITY" AT SMALL-SCALE FARMS: THE SWISS CASE

Serge BIOLLAZ, PSI - Paul Scherrer Institut, Thermal Processes & Combustion, SWITZERLAND

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IDV.3.41

NOVEL ENZYME ACTIVITY SCREENING ON COMPLEX BIOMASS STRUCTURES

Julia SCHÜCKEL, GlycoSpot, DENMARK

IDV.3.46

LIFE CYCLE ASSESSMENT OF HYDROTHERMAL CARBONIZATION OF FOUR WET BIOMASS WASTE STREAMS AT INDUSTRY-RELEVANT SCALES

Mikolaj OWSIANIAK, Technical University of Denmark, Management Engineering Dpt., DENMARK

Co-authors: M.W. Ryberg, M.Z. Hauschild, Technical University of Denmark, Kongens Lyngby, Denmark; M. Renz, Universitat Politecnica de Valencia, Valencia, Spain; M. Hitzl, Ingelia S.L., Valencia, Spain

IDV.3.48

THE NEW EUROPEAN TECHNOLOGY AND INNOVATION PLATFORM FOR BIOENERGY: PROMOTING THE MARKET UPTAKE OF COST-COMPETITIVE INNOVATIVE BIOENERGY AND BIOFUELS VALUE CHAINS

Maurizio COCCHI, ETA-Florence Renewable Energies, Bioenergy Division, ITALY

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IDV.3.49

WEALTH FROM BIO ECONOMY - NATIONAL ECONOMY PERSPECTIVE ON INTEGRATED BIO- AND LOW CARBON TECHNOLOGIES

Antti ARASTO, VTT Technical Research Centre of Finland, FINLAND

Co-authors: T. Koljonen, A. Lehtilä, VTT Technical Research Centre of Finland, Espoo, Finland

IDV.3.50

AUTOMATED MOISTURE, VOLATILE AND ASH DETERMINATION WITH A TGA SYSTEM.

Michael JAKOB, LECO, GERMANY

IDV.3.54

THE QUANTITATIVE AND QUALITATIVE ANALYSIS OF ALTERNATIVE AND RENEWABLE SOLID BIOFUELS - DEVELOPMENT AND VALIDATION

Marcin SAJDAK, Institute for Chemical Processing of Coal, Centre for Laboratory Research, POLAND

Co-author: B. Micek, Institute for Chemical Processing of Coal, Zabrze, Poland

IDV.3.55

BIOMASS FOR RESIDENTIAL AND COMMERCIAL HEATING IN A REMOTE CANADIAN ABORIGINAL COMMUNITY

Jamie STEPHEN, TorchLight Bioresources, CANADA

Co-authors: W.E. Mabee, Queen's University, Kingston, Canada; A. Pribowo, Indonesia International Institute for Life Sciences, Jakarta, Indonesia; S. Pledger, G.Q. Bull, University of British Columbia, Vancouver, Canada; R. Hart, S. Tallio, Nuxalk Development Corporation, Bella Coola, Canada

IDV.3.58

IEA BIOENERGY: POLICIES AND STATUS OF IMPLEMENTATION

Dina BACOVSKY, Bioenergy 2020+, AUSTRIA

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15:00 - 15:15

BREAK

15:15 - 16:45

CLOSING SESSION

Room: Auditorium

Chaired by:

Dr. Nicolae SCARLAT, Technical Programme Chairman

European Commission, Joint Research Centre, Directorate for Energy, Transport and Climate

Welcome to the Closing Session

Highlights of the Conference

Dr. Nicolae SCARLAT, Technical Programme Chairman

European Commission, Joint Research Centre, Directorate for Energy, Transport and Climate

Ceremony of the Poster Awards

Dr. Nicolae SCARLAT, Technical Programme Chairman

European Commission, Joint Research Centre, Directorate for Energy, Transport and Climate

Dimitrios SIDIRAS, EUBCE Poster Awards Coordinator, University of Piraeus, Greece

Ceremony of the Student Awards

Jean-François DALLEMAND, EUBCE Students Awards Coordinator,

European Commission, DG JRC Institute Energy and Transport