9 May - 12 May 2022

Conference Programme

Status of 07/03/2022

EUBCE 30th

www.eubce.com

Conference Programme

Monday, 09 May 2022
Oral presentations

09:00 - 10:00
Scientific Opening

10:00 - 11:25
Political Opening

11:25 - 12:30
Moderated Policy Panel

12:30 - 13:45 **Break**

13:45 - 14:45
PLENARY SESSION AP.1
Biomass Conversion to biobased products

Processes for the production of biobased products

CHAIRPERSONS:
David CHIARAMONTI, Polytechnic of Turin, Energy Department, ITALY
Maria Michela MORESE, Executive Secretary of the Global Bioenergy Partnership (GBEP), ITALY

AP.1.1
Keynote presentation
BIOREFINERY CONCEPTS FOR THE PRODUCTION CELLULOSIC FIBRES FROM AGRICULTURAL AND SEAWEED RESIDUES FOR SUSTAINABLE TEXTILES MANUFACTURING
Ilona VAN ZANDVOORT, TNO Energy Transition, THE NETHERLANDS
Co-authors: K. Dussan, A.T. Smit, A. Van Zomeren, J.W. Van Hal, TNO Energy Transition, Petten, The Netherlands; A. Ota, F. Hermanutz, German Institutes of Textile and Fiber Research, Denkendorf, Germany

AP.1.2
THE POTENTIAL OF BIOBASED ASPHALT - MAIN FINDINGS AND CONCLUSIONS FROM THE CHAPLIN XL & TKI PROJECTS
Martin JUNGINGER, Utrecht University, Copernicus Institute, THE NETHERLANDS
Co-authors: R. Gosselink, I. Vural-Gürsel, T. Slaghek, Wageningen Food & Biobased Research, The Netherlands; B. Corona, M. van Veen, C. Moretti, Utrecht University, The Netherlands; P. Landa, H. Post, AKC, Venlo, The Netherlands; A. Jongerius, E. de Jong, Avantium Chemicals, Amsterdam, The Netherlands; J. Groen, CBBD, Bergen op Zoom, The Netherlands; A. Steenbergen, Roelofs, Den Ham, The Netherlands; M. Verschuren, H4A, Sas vanGent, The Netherlands; D. van Vliet, TNO, Delft, The Netherlands

14:45 - 05:45 **Break**

15:00 - 16:00
ORAL SESSION 1AO.1
Sustainable Feeedstock for Advanced Biofuels and Biobased Applications

CHAIRPERSONS:
Myrsini CHRISTOU, Center for Renewable Energy Sources and Saving, GREECE
Floor VAN DER HILST, Utrecht University, THE NETHERLANDS

1AO.1.1
COMPARISON OF RAPID CALIBRATION MODELS TO PREDICT THE LIGNIN CONTENT OF LIGNOCELLULOSIC BIOMASS BASED ON INFRARED AND NEAR-INFRARED SPECTROSCOPY
Kristoffer HERDLEVÆR, University of Bergen, Chemistry Dpt., NORWAY
Co-authors: C. Løhre, E. Nodland, T. Barth, University of Bergen, Norway

1AO.1.2
OPTIONS FOR SETTING UP ADVANCED BIOFUEL CHAINS IN EMILIA ROMAGNA
Berien ELBERSEN, Alterra, Alterra-Earth Informatics Dpt., THE NETHERLANDS
Co-authors: A. Parenti, W. Zegada-Lizarazu, A. Monti, University Bologna, Italy; I.. Staritsky, Wageningen Environmental Research, The Netherlands; B. Annevelink, Wageningen Food and Biobased Research, The Netherlands; K. Oehmichen, DBFZ, Leipzig, Germany; B. Gabrielle, S. Njakou-Djomo, INRAE, Paris, France; D. Chiaramonti, Polytechnic of Turin, Italy

1AO.1.3
PERENNIAL GRASSES ON ABANDONED CROPLAND IN EUROPE: SPATIALLY EXPLICIT ENERGY POTENTIALS, NEGATIVE EMISSIONS AND ENVIRONMENTAL IMPACTS
Cristina-Maria IORDAN, Norwegian University of Science and Technology, Industrial Ecology Dpt., NORWAY
Co-authors: B. Giroux, J. Næss, X. Hu, O. Cavalett, F. Cherubini, Norwegian University of Science and Technology, Trondheim, Norway

1AO.1.4
RESULTS OF THE BBI DEMO PROJECT GRACE – DEVELOPING A SUSTAINABLE FEEDSTOCK BASE FOR BIOBASED APPLICATIONS IN THE EUROPEAN BIOECONOMY
Andreas KIESEL, University of Hohenheim, Biobased Resources in the Bioeconomy, GERMANY
Co-authors: J. Clifton-Brown, Aberystwyth University, United Kingdom; L. Trindade, Wageningen University and Research, The Netherlands; S. Amaducci, Universita Cattolica del Sacro Cuore, Piacenza, Italy; H. Höfte, INRAE, Paris, France; J. Lask, University of Hohenheim, Stuttgart, Germany; M. Bonaccorso, SPRING, Milano, Italy; V. Jurisic, University of Zagreb, Faculty of Agriculture, Croatia; S. Guerrini, Novamont, Novara, Italy; S. Babbini, MOGU, Milano, Italy; G. Anderer, AVA Biochem, Muttenz, Switzerland; G. Ales, Addiplast, St-Pal-de-Mons, France; S. Rukavina, INA d.d., Zagreb, Croatia; F. Peterlongo, INDENA, Milano, Italy; C. Gemmati, Consorzio di Bonificia di Piacenza, Piacenza, Italy; U. Kühn, Technical Service Kühn, Buscheritz, Germany; G.-J. Petrie, Miscanthusgroep, Schiphol, The Netherlands; J. Kam, Terravesta, Lincoln, United Kingdom; E. De Maupeou, Novabiom, Champhol, France; B. J. van Dinter, Vandinter Semo, Scheemda, The Netherlands

15:00 - 16:00
ORAL SESSION 4AO.2
Advanced Biomass Combustion - Novel Technologies, Evaluation Tools and Control Approaches

This session focuses on novel and clean micro-scale biomass combustion technologies, new methods to evaluation the fuel quality online, methods to predict ash formation as well as on close to real life boiler performance tests

CHAIRPERSONS:
Ingwald OBERNBERGER, BIOS Bioenergiesysteme, AUSTRIA
Marco BARATIERI, Free University of Bolzano, ITALY

4AO.2.1
REAL-LIFE PERFORMANCE OF AUTOMATICALLY STOKED BIOMASS BOILERS - VALIDATION OF A STANDARD LOAD-CYCLE TEST METHOD THROUGH ROUND ROBIN
Sabine FELDMEIER, BEST Bioenergy and Sustainable Technologies, AUSTRIA
Co-authors: C. Schön, H. Hartmann, Technology and Support Centre, Straubing, Germany; M. Schwarz, BEST Bioenergy and Sustainable Technologies GmbH, Graz, Austria

4AO.2.2
CLEAN AND EFFICIENT LOW EMISSION MICRO-SCALE PELLET STOVE WITH ADVANCED CONTROL
Christoph MANDL, BIOS Bioenergiesysteme, AUSTRIA
Co-authors: I. Obernberger, BIOS Bioenergiesysteme, Graz, Austria; M. Koessl, RIKA Innovative Ofentechnik GmbH, Micheldorf, Austria; D. Lustenberger, T. Strebel, D. Winkler, University of Applied Sciences and Arts Northwestern Switzerland, Windisch, Switzerland

4AO.2.3
CAN A THERMODYNAMIC TOOL PREDICT THE ASH BEHAVIOR OF BIOMASS AND THEIR MIXTURES IN COMBUSTION PROCESSES?
Emile ATALLAH, CEA, FRANCE
Co-authors: F. Defoort, CEA, Grenoble, France; A. Pisch, SIMaP, Grenoble INP, CNRS, Grenoble, France; C. Dupont, IHE Delft Institute for Water Education, Delft, The Netherlands

4AO.2.4
ONLINE CHARACTERIZATION OF BIOMASS VIA POCKET SIZED NEAR-INFRARED DEVICE DURING SMALL SCALE FLUIDIZED BED BOILER OPERATION: EVALUATION, CHALLENGES AND OPPORTUNITIES
Alessandra CAMELO, Deutsches Biomasseforschungszentrum GmbH, GERMANY
Co-authors: A. POLLEX, J. MÜHLENBERG, T. ZENG, Deutsches Biomasseforschungszentrum GmbH, Leipzig, Germany

15:00 - 16:00
ORAL SESSION 6AO.3
Biochar and Biobased Adsorbents

CHAIRPERSONS:
Solange MUSSATTO, Technical University of Denmark, DENMARK
Marco BUFFI, European Commission Joint Research Centre, ITALY

6AO.3.1
BIOCHAR PRODUCTION FROM LATE-HARVEST GRASS - POTENTIAL FOR UP-SCALING
Thomas HEINRICH, Leibniz-Institute für Agrartechnik und Bioökonomie e. V. (ATB), Department of Post Harvest Technology, GERMANY
Co-authors: B. Selge, T. Hoffmann, J. Libra, Leibniz-Institute for Agricultural Engineering and Bioeconomy (ATB), Potsdam, Germany

6AO.3.2
PYROLYSISO OF RESIDUAL FOREST BIOMASS IN A PROTOTYPE OF AUGER REACTOR.
Luís TARELHO, Universidade de Aveiro, Environment and Planning Dpt., PORTUGAL
Co-authors: A.C. Vilas-Boas, F.G.CS. Silva, DRS Gerra, . Matos, Universidade de Aveiro, Portugal; T. Hauschild, Universidade Federal do Rio Grande do Sulde Aveiro, Porto Alegre, Brazil

6AO.3.3
HEAVY METAL REMOVAL FROM WASTEWATERS BY TORREFIED AGRICULTURAL BIOMASSES
Hary DEMEY, Commissariat à l'Energie Atomique et aux Energies Alternatives, CEA/DRT/LITEN/DTCH/SCPC/LRP Dpt., FRANCE
Co-authors: E. Casali, B. Bouesso, M. Marcand, E. Lacombe, S. Barthelemy, E. Billy, Commissariat à l'Energie Atomique et aux Energies Alternatives, Grenoble, France

6AO.3.4
BRINE PRETREATED SAWDUST AS ADSORBENT FOR INDUSTRIAL LIQUID WASTE CLEANING
Dimitrios SIDIRAS, University of Piraeus, Industrial Management and Technology Dpt., GREECE
Co-author: D. Politi, University of Piraeus, Greece

16:00 – 16:15 Break

16:15 - 17:15
ORAL SESSION 1AO.4
GIS and other Tools for Sustainable Biomass Quantification

CHAIRPERSONS:
Helen K. WATSON, University of KwaZulu-Natal, SOUTH AFRICA
Yvonne VAN DER MEER, Aachen Maastricht Institute for Biobased Materials, NL

1AO.4.1
INTEGRATED METHODS OF GIS-MCA FOR AN ASSESSMENT OF A POTENTIAL DECENTRALIZED BIOETHANOL PRODUCTION SYSTEM USING AGRICULTURAL RESIDUES IN THAILAND
Piradee JUSAKULVIJIT, Helmholtz Centre for Environmental Research - UFZ, Bioenergy, GERMANY
Co-authors: A. Bezama, D. Thrän, Helmholtz Centre for Environmental Research - UFZ, Leipzig, Germany

1AO.4.2
MARGINAL, UNDERUTILISED AND CONTAMINATED LANDS IN EUROPE: MAPPING AND WEB-BASED SUSTAINABILITY ASSESSMENT OF BIOENERGY VALUE CHAINS
Cosette KHAWAJA, WIP Renewable Energies, GERMANY
Co-authors: R. Janssen, D. Rutz, WIP Renewable Energies, Munich, Germany; M. Colangeli, L. Traverso, FAO, Rome, Italy; M. Morese, FAO, Rome, India; M. Hirschmugl, C. Sobe, Joanneum Research, Graz, Austria; A. Calera, D. Cifuentes, UCLM, Albacete, Spain

1AO.4.3
INVESTIGATING THE POTENTIAL OF MOBILE PROCESSING FACILITIES FOR BIOMASS-TO-BIOFUEL VALUE CHAINS
Athanasios RENTIZELAS, National Technical University of Athens, Mechanical Engineering Dpt., GREECE
Co-authors: F. Psathas, P. Georgiou, National Technical University of Athens, Zografou, Greece

1AO.4.4
PHYLLIS 2: THE OPEN ACCESS DATABASE FOR BIOMASS PROPERTIES
Carlos Filipe MOURAO VILELA, TNO, Energy Transition Dpt., THE NETHERLANDS
Co-authors: J. Kiel, TNO, Petten, The Netherlands; I. del Campo, CENER, Sarriguren, Spain; F. Carvalheiro, L.C. Duarte, C. Oliveira, LNEG, Lisboa, Portugal

16:15 - 17:15
ORAL SESSION 4AO.5
Integrated Gasification Concepts, Innovative Gas Cleaning, Syngas Conversion and Char Characterisation

This session comprises a range of gasification-related contributions, including integrated gasification concepts, innovative gas cleaning, syngas conversion and char characterisation.

CHAIRPERSONS:
Wiebren DE JONG, Delft University of Technology, THE NETHERLANDS
Jaap KIEL, TNO Energy Transition, THE NETHERLANDS

4AO.5.1
RELEASE OF AEROSOL FORMING ELEMENTS FROM UPDRAFT GASIFIERS OPERATED WITH WASTE WOOD
Klaus SUPANCIC, BIOS Bioenergiesysteme, AUSTRIA
Co-authors: C. Schlögl, T. Brunner, I. Obernberger, BIOS Bioenergiesysteme, Graz, Austria

4AO.5.2
BREAKTHROUGH GAS CLEANING TECHNOLOGY - CLEAN UP ENGINE
Lorenzo PEZZOLA, Yanmar R&D Europe, Yanmar-REG, ITALY
Co-authors: R. Mussi, V. Magalotti, Yanmar R&D Europe, Firenze, Italy; Y. Chen, J.B. Heywood, Massachusetts Institute of Technology, Boston, Usa; G. Gianakakis, Emvolon, Inc, Sharon, Italy; E Kasseris, L Bromberg, Emvolon, Inc, Sharon, Usa

4AO.5.3
COMBUSTION OF A SYNGAS FROM SEWAGE SLUDGE GASIFICATION ENRICHED WITH AMMONIA IN A SPARK-IGNITION ENGINE
Pierre BREQUIGNY, Université d'Orléans, PRISME Laboratory, FRANCE
Co-authors: E. Pacaud, C. Mounaïm-Rousselle, Université d'Orléans, France

4AO.5.4
CHARACTERISTICS OF GASIFICATION CHARS - RESULTSF FROM A SCREENING CAMPAIGN IN GERMANY
Annett POLLEX, DBFZ-German Biomass Research Centre, Thermo-chemical Conversions, GERMANY
Co-authors: S. Bandemer, A. Ulbricht, Eurofins Umwelt Ost GmbH, Bobritzsch-Hilbersdorf, Germany; K. Herrmann, D. Bräkow, Fachagentur Erneuerbare Energien FEE e.V., Berlin, Germany

16:15 - 17:15
ORAL SESSION 6AO.6
Biobased Materials

CHAIRPERSONS:
Mariya MARINOVA, Royal Military College of Canada, CANADA
René VAN REE, Wageningen Research, THE NETHERLANDS

6AO.6.1
EXTRACTION AND CHARACTERISATION OF HIGH-QUALITY CELLULOSE FROM PRE-HYDROLYSED OLIVE TREE PRUNING BIOMASS FOR POLYMER APPLICATIONS
Jose Antonio RODRIGUEZ LIEBANA, Fundación Andaltec I+D+i (Plastic Technological Center), R&D Projects, SPAIN
Co-authors: S. Jurado-Contreras, F. Morillas-Gutiérrez, M.D. La Rubia, A.J. Moya, S. Mateo, Department of Chemical, Environmental and Materials Engineering, University of Jaén, Spain; F.J. Navas-Martos, Fundación Andaltec I+D+i (Plastic Technological Center), Martos, Spain

6AO.6.2
CONVERSION OF BIOMASS TO BIOBASED GROWING MEDIA AS SUBSTITUTE FOR PEAT
Søren Ugilt LARSEN, Danish Technological Institute, AgroTech Division, DENMARK
Co-authors: J. Hinge, Food & Bio Cluster Denmark, Tjele, Denmark; T. Mendanha, Aarhus University, Aarhus N, Denmark; R. Zhou, A.M. Smith, Aarhus Universityt, Aarhus N, Denmark; M.T. Knudsen, Aarhus Universityt, Tjele, Denmark; F. Hashemi, Aarhus University, Tjele, Denmark

6AO.6.3
EFFECTS OF WATER/TERT-BUTANOL BINARY SOLVENT SYSTEM ON THE STRUCTURE AND ELECTROCHEMICAL PERFORMANCE OF ICE-TEMPLATED LIGNIN-DERIVED POROUS CARBON
Shiyu GENG, Luleå University of Technology, SWEDEN
Co-authors: R. Ayub, D. Blomberg, RISE Processum, Örnsköldsvik, Sweden; F. Momayez, C. Martín, Umeå University, Sweden; B. Thomas, Luleå University of Technology, Sweden; L. Jönsson, Umeå Universitysity of Technology, Sweden

6AO.6.4
DEVELOPMENT OF NEW CIRCULAR MATERIALS AND OBJECTS ON THE BASIS OF PLA PLASTICS
Jan PELS, TNO, TNO-ET-BCT, THE NETHERLANDS
Co-authors: H.M. Visser, E. Cobussen, TNO, Petten, The Netherlands; L. Cuppen, YKSI, Eindhoven, The Netherlands

17:15 - 17:30 Break

17:30 - 18:30
ORAL SESSION 1AO.7
Sustainable Bioenergy and Forest Resources

CHAIRPERSONS:
Karl MOOSMANN, GIZ, GERMANY
Tiziana PIRELLI, Council for Agricultural Research and Economics - CREA (IT), ITALY

1AO.7.1
Invited

1AO.7.2
REPLACEMENT OF PEAT WTH FOREST CHIPS IN FINNISH ENERGY PRODUCTION
Tapio RANTA, Lappeenranta University of Technology, School of Energy Systems, FINLAND
Co-authors: M. Laihanen, A. Karhunen, Lappeenranta University of Technology, Finland

1AO.7.3
IN SILICO QUANTIFICATION OF MISCANTHUS (MISCANTHUS × GIGANTEUS GREEF ET DEU.) BIOMASS PRODUCTIVITY IN ITALIAN MARGINAL AREAS USING ARUNGRO SIMULATION MODEL
Giovanni CAPPELLI, CREA, Research Centre for Agriculture and Environment, ITALY
Co-authors: F. Ginaldi, D. Fanchini, E. Ceotto, CREA, Bologna, Italy

1AO.7.4
UTILIZATION OF LIDAR AND DIGITAL AERIAL PHOTOGRAMMETRY DATA DOR MODELLING HEIGHT-DIAMETER CURVE FOR PREDICTION IN YOUNG BOREAL FOREST
Arun GYAWALI, LUT University, FINLAND
Co-authors: M. Aalto, T. Ranta, LUT University, Mikkeli, Finland

17:30 - 18:30
ORAL SESSION 4AO.8
Advances in Gasification for Synthesis Gas Production

This session focuses on the advances in biomass gasification for synthesis gas production as well as the emissions of these gasification processes

CHAIRPERSONS:
Markus BOLHÀR-NORDENKAMPF, Valmet, AUSTRIA
Frederik RONSSE, Gent University, BELGIUM

4AO.8.1
SECOND GENERATION BIOMASS GASIFICATION: THE SYNGAS PLATFORM VIENNA - CURRENT STATUS AND OUTLOOK
Matthias KUBA, BEST- Bioenergy and Sustainable Technologies GmbH, AUSTRIA
Co-authors: T. Karel, K. Fürsatz, M. Binder, M. Huber, G. Weber, M. Luisser, W. Haslinger, BEST- Bioenergy and Sustainable Technologies GmbH, Graz, Austria; T.K. Hannl, Lulea University of Technology, Sweden; H. Hofbauer, TU Wien, Graz, Austria

4AO.8.2
SYNTHESIS GAS UPGRADING VIA NON-CATALYTIC PARTIAL OXIDATION OF METHANE WITH REGARD TO SORPTION ENHANCED GASIFICATION
Thiansiri KERTTHONG, University of Stuttgart, Institute of Combustion and Power Plant Technology, GERMANY
Co-authors: M. Schmid, G. Scheffknecht, University of Stuttgart, Germany

4AO.8.3
DEVELOPMENT OF A NOVEL BUBBLING CIRCULATING FLUIDISED-BED (BCFB) GASIFICATION PROCESS FOR CO-PRODUCTION OF SYNTHETIC NATURAL GAS AND HIGH-VALUE BIOCHAR
Sanna TUOMI, VTT Technical Research Centre of Finland Ltd, Thermochemical Conversions Dpt., FINLAND
Co-authors: E. Kurkela, M. Kurkela, I. Hiltunen, VTT Technical Research Centre of Finland Ltd, Espoo, Finland

4AO.8.4
CHARACTERIZATION OF GASEOUS INORGANIC POLLUTANT RELEASE IN BIOMASS AND WASTE GASIFICATION
Hala BRAIDY, CEA, FRANCE
Co-authors: S. Valin, CEA, Grenoble, France; F. Patisson, Institut Jean Lamour, Nancy, France

17:30 - 18:30
ORAL SESSION 6AO.9
Integrated Biorefineries: Sugar and Lignin Transformations.

CHAIRPERSONS:
Wouter HUIJGEN, Royal COSUN, THE NETHERLANDS
Michele CANOVA, European Commission JRC, EU

6AO.9.1
MISSION INTEGRATED BIOREFINERIES
Kees KWANT, Netherlands Enterprise Agency, Ministry of Economic Affairs, RVO, THE NETHERLANDS
Co-authors: S. Kasture, Department of BioTechnology, Government of India, New Delhi, India; B. Annevelink, WFBR, Wageningen Food& Biobased Research, Wageningen, The Netherlands

6AO.9.2
FUELING THE FUTURE WITH SUSTAINABLE CHEMISTRY - EFFICIENT ORODUCTION OF FURFURAL AND 5-HYDROXYMETHYLFURFURAL FROM XYLOSE AND SWEET CHERRY WASTE EMPLOYING A BIPHASIC REACTION SYSTEM
Joakim LINDGAARD MOLNES, University of Bergen, Chemistry Dpt., NORWAY
Co-authors: T. Barth, C. Løhre, University of Bergen, Norway

6AO.9.3
CARBOXYLATION OF KRAFT LIGNIN BY USING PERACETIC ACID FOR SUBSTITUTION OF A PLASTICIZER FOR CEMENT PASTE
Jong Chan KIM, Seoul National University, SOUTH KOREA
Co-authors: Y.M. Cho, S.W. Park, S.M. Cho, C.H. Yoon, H.W. Kwak, I.G. Choi, Seoul National University, South Korea; J.H. Choi, Korea Research Institute of Chemical Technology, South Korea

6AO.9.4
CATALYTIC LIGNIN DEPOLYMERISATION WITH RU/C: STRUCTURE-REACTIVITY CORRELATIONS
Tina ROCNIK, National Institute of Chemistry, Department of Catalysis and Chemical Reaction Engineering, SLOVENIA REPUBLIC
Co-authors: B. Likozar, E. Jasiukaityte-Grojzdek, M. Grilc, National Institute of Chemistry, Ljubljana, Slovenia Republic

Tuesday, 10 May 2022
Oral presentations

09:00 - 10:00
ORAL SESSION 1BO.1
Biomass crops for marginal land

Dedicated crops represent an important feedstock to decarbonise the energy sector and their cultivation on marginal/contaminated land is suggested as an approach to minimize land use change controversies.

CHAIRPERSONS:
Marisol BERTI, North Dakota State University, USA
Moritz VON COSSEL, University of Hohenheim 340b, GERMANY

1BO.1.1
EFFECT OF IRRIGATION DOSE IN POPLAR BIOMASS PRODUCTION ON SHORT ROTATION CONDITIONS IN MARGINAL LAND UNDER MEDITERRANEAN CLIMATE CONDITIONS.
Carlos Sixto CIRIA RAMOS, CIEMAT, Biomasa Dpt., SPAIN
Co-authors: C.S. Ciria, J. Perez, P. Ciria, CIEMAT, Lubia (Soria), Spain

1BO.1.2
INTEGRATING THE REUSE OF CONTAMINATED EFFLUENTS WITH IL CROPS PRODUCTION - HINTS ON HOW ECONOMIC GROWTH CAN BE DECOUPLED FROM RESOURCE USE
Jorge COSTA, ISEC Lisboa, PORTUGAL
Co-authors: A.L. Fernando, C. Vidoeira, L. Gomes, Universidade Nova de Lisboa, Caparica, Portugal; B. Cumbane, Universidade Zambeze, Tete, Mozambique; F. Zanetti, A. Monti, UNIBO, Bologna, Italy

1BO.1.3
COMBINING BIOENERGY AND BIOMATERIALS PRODUCTION WITH PHYTOREMEDIATION OF CONTAMINATED SOILS. MESSAGES TO TAKE FROM SELECTED CROPPING SYSTEMS
Ana Luisa FERNANDO, Universidade Nova de Lisboa, Ciências e Tecnologia Biomassa Dpt., PORTUGAL
Co-authors: L. Gomes, Universidade Nova de Lisboa, Caparica, Portugal; J. Costa, ISEC, Lisboa, Lisbona, Portugal; E. Alexopoulou, Universidade Nova de Lisboa, Lisboa, Portugal

1BO.1.4
DISTRIBUTION OF THE ENERGY RETURN ON INVESTMENT OF MISCANTHUS PRODUCED ON MARGINAL LANDS IN BELGIUM
Martin COLLA, UCLouvain University, BELGIUM
Co-authors: D. Tonelli, H. Jeanmart, UCLouvain University, Louvain La Neuve, Belgium; A. Hastings, University of Aberdeen, Aberdeen, United Kingdom; J. Blondeau, Vrij Unviersiteit Brussel, Brussels, Belgium

09:00 - 10:00
ORAL SESSION 5BO.2
Pyrolytic Conversion of Biomass to Valuable Products including LCA

CHAIRPERSONS:
Wolter PRINS, Ghent University, BELGIUM
Ralph P. OVEREND, Biomass & Bioenergy Journal, CANADA

5BO.2.1
ROLE OF TEMPERATURE IN THE BIOMASS STEAM PYROLYSIS IN A CONICAL SPOUTED BED REACTOR
Enara FERNANDEZ SAENZ, University of the Basque Country, SPAIN
Co-authors: M. Cortazar Dueñas, I. Garcia Gonzalez, M. Artetxe, M. Amutio, L. Santameria, S. Orozco, M. Olazar, University of the Basque Country, Leioa, Spain

5BO.2.2
PYROLYSIS OF AGRICULTURAL BIOMASSES: PROVIDING FOREGROUND DATA FOR CONSEQUENTIAL LIFE CYCLE ASSESSMENT
Patrick BRASSARD, IRDA, CANADA
Co-authors: L. Hamelin, Toulouse Biotechnology Institute, Toulouse, France; V. Lakshman, McGill University, Sainte-Anne-de-Bellevue, Canada; V. Raghavan, IRDAMcGill University, QuSainte-Anne-de-Bellevueébec, Canada; S. Godbout, IRDA, Québec, Canada

5BO.2.3
POTENTIAL OF ENERGY CANE AS A SOURCE OF BIOFUEL AND BIO-BASED CHEMICALS VIA PYROLYSIS COMPARED TO SUGARCANE BAGASSE AND STRAW
Co-authors: J.G.A. Pacheco, J. F. Gonzalez, S. Arias, D. O. Liborio, C. B. M. Barbosa, Universidade Federal de Pernambuco, Recife, Brazil

5BO.2.4
CONVERSION OF VINE PRUNINGS TO BIOCHAR OUTPERFORMS COMPOSTING FOR ENERGY, GREENHOUSE GASES AND SOIL CARBON STORAGE
Flavio FORNASIER, Centro di ricerca per lo studio delle relazioni tra pianta e suolo, CRA - RPS - Gruppo di Ricerca di Gorizia), ITALY
Co-authors: A. Assirelli, CREA - Research Center for Engineering & Agro-Food Processing, Monterotondo, Italy; C. Mondini, G. Bragato, CREA - Research Center for Viticulture and Enology, Gorizia, Italy

09:00 - 10:00
ORAL SESSION 3BO.3
Biorefinery Concepts

Encompasses Biorefinery Concepts

CHAIRPERSONS:
James SPAETH, Energy Efficiency and Renewable Energy U.S. Department of Energy,US, USA
Maria GEORGIADOU, European Commission, DG RTD, EU

3BO.3.1
A NOVEL CASCADE BIOREFINERY APPROACH TO TRANSFORM FOOD WASTE INTO VALUABLE CHEMICALS AND BIOGAS THROUGH THERMAL PRE-TREATMENT INTEGRATION
Camilla Maria BRAGUGLIA, CNR - Istituto di Ricerca sulle Acque, ITALY
Co-authors: A. Gianico, A. Gallipoli, G. Gazzola, B. Tonanzi, S. Crognale, S. Rossetti, CNR - Istituto di Ricerca sulle Acque, Monterotondo, Italy

3BO.3.2
IDENTIFICATION AND CATEGORISATION OF EXISTING AND EMERGING CHEMICAL AND MATERIAL DRIVEN BIOREFINERY PATHWAYS
Iris VURAL GURSEL, Wageningen Food & Biobased Research, THE NETHERLANDS
Co-authors: L. Garcia Chavez, R. Van Ree, B. Annevelink, Wageningen Food & Biobased Research, The Netherlands; P. Reumermann, BTG, Enschede, The Netherlands; R. Platt, E4Tech, London, United Kingdom

3BO.3.3
COOL LPG: A NEW PROCESS FOR HIGHLY SELECTIVE BIOLPG PRODUCTION
P. LITTLEWOOD, GTI, USA
Co-authors: T. Marker, M. Herrera, P. Ortiz-Toral, GTI, Des Plaines, Usa

3BO.3.4
CONCEPTUAL DESIGN OF INTEGRATED BIOREFINERY FOR ELECTRICITY, HEAT AND HYDROGEN PRODUCTION
Richard OCHIENG, NTNU, Department of Manufacturing and Civil Engineering, NORWAY
Co-authors: A. Gebremedhin, S. Sarker, NTNU, Gjøvik, Norway

10:00 - 10:15 Break

10:15 - 11:30
PLENARY SESSION BP.1
Availability and Supply of Sustainable Bioenergy in the EU and Beyond

Availability and Supply of Sustainable Bioenergy in the EU andBbeyond

CHAIRPERSONS:
Franco COTANA, CRB - Biomass Research Centre, ITALY
Uwe R. FRITSCHE, IINAS, GERMANY

BP.1.1
Keynote presentation
SUSTAINABLE BIOMASS IN THE EU TOWARDS 2050. A LOOK INTO AVAILABILITY, SUPPLY CHAIN AND IMPACT ON BIODIVERSITY
Alba SOLER ESTRELLA, European Petroleum Refiners Association, Concawe Division, BELGIUM
Co-authors: C. Panoutsou, Imperial College London Consultants, London, United Kingdom; A. Gess, Fraunhofer, Stuttgart, Germany

BP.1.2
FIT FOR 55 AND FUELS: ADVANCED FUEL AVAILABILITY AND SUSTAINABILITY RISKS FOR THE MARINE, AVIATION AND ROAD SECTORS IN THE EU IN 2030
Chelsea BALDINO, The International Council on Clean Transportation, Fuels, GERMANY
Co-authors: C. Cararro, The International Council on Clean Transportation, Berlin, Germany; S. Searle, The International Council on Clean Transportation, Washington, D.C., Usa

BP.1.3
THE MAGIC PROJECT: GROWING SELECTED PROMISING INDUSTRIAL CROPS ON MARGINAL LANDS
Efthymia ALEXOPOULOU, CRES - Center for Renewable Energy Sources and Saving, Biomass Dpt., GREECE

11:30 - 11:45 **Break**

11:45 - 12:45
ORAL SESSION 2BO.4
Resource Efficient Economy

CHAIRPERSONS:
Raphael SLADE, Imperial College London, UNITED KINGDOM
Aikaterini KONTI, European Commission JRC, ITALY

2BO.4.1
ABOUT A EUROPEAN BIOECONOMY TRANSITION? AN ECONOMIC PERSPECTIVE
Tévécia RONZON, European Commission JRC, JRC.D.4 Economics of Agriculture, SPAIN
Co-authors: S. Iost, Thünen Institute of International Forestry and Forest Economics, Hamburg, Germany; G. Philippidis, Aragonese Agency for Research and Development (ARAID-IA2), Zaragoza, Spain

2BO.4.2
ECONOMETRIC TIME SERIES MODELLING OFF SAWMILL BY-PRODUCT PRICES
Marilene FUHRMANN, BEST - Bioenergy and Sustainable Technologies, AUSTRIA
Co-authors: C. Dissauer, C. Strasser, BEST - Bioenergy and Sustainable Technologies GmbH, Wieselburg-Land, Austria; E. Schmid, Institute for Sustainable Economic Development, University of Natural Resources and Life Sciences, Vienna, Austria

2BO.4.3
VALUE OF RESIDUAL BIOMASS IN CHINA - USING CASCADING PRINCIPLES TO INVESTIGATE ENVIRONMENTAL AND ECONOMIC BENEFITS
Sara SHAPIRO-BENGTSEN, Technical University of Denmark, Technology, Management and Economics Dpt., DENMARK
Co-authors: R. Bramstoft, M. Münster, Technical University of Denmark, Kgs. Lyngby, Denmark

2BO.4.4
URBAN USES OF BIOCHAR - LIFE CYCLE ASSESSMENT
E.S. AZZI, KTH Royal Institute of Technology, SWEDEN
Co-authors: E Karltun, C. Sundberg, Swedish University of Agricultural Sciences, Uppsala, Sweden

11:45 - 12:45
ORAL SESSION 5BO.5
Simulation, Modelling and Catalytic Pyrolysis

CHAIRPERSONS:
A. APFELBACHER, Fraunhofer Institute for Environmental, Safety, and Energy Technology, GERMANY
Wim VAN SWAAIJ, University of Twente, THE NETHERLANDS

5BO.5.1
SIMULATION OF CO-PYROLYSIS OF COFFEE GROUND AND WASTE POLYSTYRENE FOAM IN A TILTED-SLIDE REACTOR
Sang-Kyu CHOI, Korea Institute of Machinery & Materials, Dept. of Clean Fuel & Power Generation, SOUTH KOREA
Co-authors: Y.S. Choi, Y.W. Jeong, S.Y. Han, Korea Institute of Machinery & Materials, Daejeon, South Korea; Q.V. Nguyen, University of Science and Technology, Daejeon, South Korea

5BO.5.2
INFLUENCE OF TEMPERATURE AND SPACE-TIME ON THE CATALYTIC OXIDATIVE STEAM REFORMING OF VOLATILES FROM BIOMASS PYROLYSIS
Irati GARCÍA, University of the Basque Country, Chemical Engineering Dpt-, SPAIN
Co-authors: S. Orozco, L. Olazar, M. Suárez, M. Artetxe, G. López, E. Fernández, M. Olazar, Univ. of the Basque Country, Leioa, Spain

5BO.5.3
MODELLING THE INTEGRATION OF SLOW PYROLYSIS OF AGRICULTURAL RESIDUES IN THE STEELMAKING SECTOR: A TECHNO-ECONOMIC ANALYSIS OF THE ITALIAN CASE STUDY FROM MUSIC H2020 PROJECT
Giacomo TALLURI, Renewable Energy Consortium for Research and Development, ITALY
Co-authors: A.M. Rizzo, A. Salimbeni, G. Lombardi, Renewable Energy Consortium for Research and Development, Scarperia e San Piero, Italy; G. Trombi, N. Bartoloni, C. Dibari, M. Bindi, University of Florence Department of Agriculture, food, environment, and forestry (DAGRI), Florence, Italy; G. Kardaras, K. Panopoulos, T. Kraia, CPERI, CERTH, Thessaloniki, Greece; W. Van Der Stricht, ArcelorMittal, Gent, Belgium

5BO.5.4
EUBCE Student Awardee Presentation
CATALYST-ASSISTED CO-PYROLYSIS OF DEFATTED SPENT COFFEE GROUNDS AND PLASTIC WASTE: EXPERIMENTAL ASSESSMENT OF CO-FEEDING SYNERGISTIC EFFECTS TOWARDS ADVANCED MULTI-PURPOSE BIOREFINERIES
Pietro MELE, University of Rome Tor Vergata, Industrial Engineering Dpt., ITALY
Co-authors: L. Bartolucci, S. Cordiner, V. Mulone, University of Rome 'Tor Vergata', Italy

11:45 - 12:45
ORAL SESSION 3BO.6
Biomass Applications in Biorefineries

Encompasses Biomass Applications in Biorefineries

CHAIRPERSONS:
Heinz A. OSSENBRINK, Former Head of Unit of European Commission, Joint Research Centre, EU
Kees KWANT, Netherlands Enterprise Agency, Ministry of Economic Affairs, THE NETHERLANDS

3BO.6.1
BIOCHAR FOR TECHNICAL APPLICATIONS VIA SLOW PYROLYSIS OF GRASS FIBER PULP RESIDUE FROM GREEN PROTEIN BIOREFINERY
Andrej SANER, Aarhus University, Animal Science, DENMARK
Co-authors: A.M. Smith, M. Ambye-Jensen, S.K. Jensen, Aarhus University, Denmark

3BO.6.2
OPPORTUNITIES FOR HYDROGEN PRODUCTION IN BRAZIL'S SUGARCANE SECTOR
Suani COELHO, University of São Paulo, GBIO/Institute of Energy and Environment, BRAZIL
Co-authors: K.L. Mascarenhas, J.R. Meneghini, RCGI/USP, São Paulo, Brazil; D. Perecin, GBIO/IEE/USP, São Paulo, Brazil

3BO.6.3
HALOPHYTES USED IN AN INTEGRATED BIOREFINERY WITH THE EXTRACTION OF BIOACTIVE COMPOUNDS
Sylvia FASSE, HS Bremerhaven, GERMANY
Co-authors: T. Tasci, S. Raval, A. Gottschalk, HS Bremerhaven, Bremerhaven, Germany; M.H. Thomsen, Aalborg University, Esbjerg, Denmark

3BO.6.4
EXTRACTION OF ESSENTIAL OILS AND PHENOLIC COMPOUNDS FROM ORANGE RESIDUES USING DIFFERENT TECHNIQUES FOR ITS INTEGRATION UNDER THE BIOREFINERY CONCEPT
Daniel David DURÁN-ARANGUREN, Universidad de los Andes, Chemical and Food Engineering Dpt., COLOMBIA
Co-authors: L.C. Villabona, R. Sierra, Universidad de los Andes, Bogotá, Colombia

12:45 - 13:45 **Break**

13:45 - 14:45
PLENARY SESSION BP.2
Biomass Conversion to Intermediate Bioenergy Carriers, Sustainable Biofuels and Bio-Based Products

This session will explore the very broad topics of Biomass Conversion to Intermediate Bioenergy Carriers, Sustainable Biofuels and Bio-Based Products

CHAIRPERSONS:
Christian THIEL, European Commission, Joint Research Centre, EU
Luc PELKMANS, IEA Bioenergy, BELGIUM

BP.2.1
Keynote presentation
BIOENERGY RETROFITTING IN EUROPE'S INDUSTRY - BIOFIT PROJECT RESULTS
Patrick REUMERMAN, BTG Biomass Technology Group, THE NETHERLANDS
Co-authors: D. Rutz, R. Janssen, WIP Renewable Energies, Munich, Germany; D. Bacovsky, BEST - Bioenergy and Sustainable Technologies, Graz, Austria; H. Saastamoinen, VTT, Espoo, Finland; S. Hauschild, DBFZ Deutsches Biomasseforschungszentrum, Leiptzig, Germany

BP.2.2
Invited

14:45 - 15:00 Break

15:00 - 16:00
ORAL SESSION 1BO.7
Bring forward Biomass Crops through Innovation

Innovative Strategies to Produce Dedicated Biomass to Energy

CHAIRPERSONS:
Stefano AMADUCCI, Università Cattolica del Sacro Cuore, ITALY
Vance OWENS, United States Department of Agriculture, USA

1BO.7.1
EFFECTS OF DIFFERENT LIGHT SPECTRA ON THE MICROPROPAGATION OF SACCHARUM SPONTANEUM SPP. AEGYPTIACUM
V. CAVALLARO, CNR-IBE, ITALY
Co-authors: D. Scordìa, G. Testa, S.L. Cosentino, University of Catania, Italy; A. Saita, A. Pellegrino, C. Patanè, CNR-IBE, Italy

1BO.7.2
COMPARING VARIOUS WEED TREATMENTS AND THEIR INFLUENCE ON THE ESTABLISHMENT AND BIOMASS YIELD OF SIDA HERMAPHRODITA L. RUSBY UNDER FIELD CONDITIONS
Nicolai David JABLONOWSKI, Forschungszentrum Jülich, IBG-2: Plant Sciences, GERMANY
Co-authors: B. Ohrem, Forschungszentrum Jülich Institute of Bio- and Geosciences, IBG-2: Plant Sciences, Germany; J. Cohnen, P. von Gillhaussen, Forschungszentrum Jülich, Institute of Bio- and Geosciences, IBG-2: Plant Sciences, Germany; M. von Cossel, University of Hohenheim, Institute of Crop Science, Biobased Resources in the Bioeconomy, Stuttgart, Germany

1BO.7.3
INTERCROPPING MAIZE AND ALFALFA: A CROPPING SYSTEM TO MITIGATE THE NEGATIVE ENVIRONMENTAL IMPACT OF MAIZE FOR ETHANOL PRODUCTION IN THE USA.
Marisol BERTI, North Dakota State University, Plant Sciences Dpt., USA
Co-authors: A. Cecchin, S. Bibby, North Dakota State University, Fargo, Usa; J.V. Anderson, ARS-USDA, Fargo, Usa

1BO.7.4
SCREENING OF CURRENTLY AVAILABLE AND NOVEL BIOENERGY TECHNOLOGIES FOR RURAL BIOECONOMIES
Kirsikka KIVIRANTA, VTT Technical Research Centre of Finland, FINLAND
Co-authors: H. Saastamoinen, VTT Technical Research Centre of Finland, Tampere, Finland; E. Mäki, VTT Technical Research Centre of Finland, Espoo, Finland; J. Raitila, VTT Technical Research Centre of Finland, Jyväskylä, Finland; M. Gomez Palmero, CIRCE, Zaragoza, Spain; L. García Laverde, S. Weber, DBFZ, Leipzig, Germany

15:00 - 16:00
ORAL SESSION 6BO.8
Biobased Chemicals and Polymers

CHAIRPERSONS:
Kevin O'CONNOR, University College Dublin, IRELAND
Joe A. GALLAGHER, Aberystwyth University, UNITED KINGDOM

6BO.8.1
PRODUCTION OF ACETIC ACID FROM WASTE ACTIVATED SLUDGE AND VERGE GRASS JUICE
Johan VAN GROENESTIJN, Wageningen Food & Biobased Research, THE NETHERLANDS
Co-authors: T.M. Mubita Zambrano, R.J.M. Bisselink, Wageningen Food & Biobased Research, The Netherlands

6BO.8.2
VALORIZATION OF NORWAY SPRUCE BARK (PICEA ABIES) RESIDUES - EXTRACTION AND ANALYSIS OF PHENOLIC CONSTITUENTS
Theresa RÜCKER, Sintef Industry, Process Technology, NORWAY
Co-authors: O.T. Berglihn, B. Wittgens, Sintef Industry, Trondheim, Norway

6BO.8.3
SCALING UP OF THE PROCEDURE FOR OBTAINING POLYMER BIOCOMPOSITE BASED ON PP REINFORCED WITH NATURAL FIBRE FROM OLIVE TREE PRUNING. LIFE COMP0LIVE PROJECT
J.P. FERRER-RODRÍGUEZ, Andaltec Technological Centre, SPAIN
Co-authors: S. Jurado Contreras, M.D. La Rubia, A. Moya, Universidad de Jaén, Spain; J. Castillo-González, M. Cano-Galey, F.J. Navas-Martos, Andaltec Technological Centre, Jaén, Spain

6BO.8.4
ASSESSMENT OF THE USE OF COMMON JUNIPER (JUNIPERUS COMMUNIS L.) FOLIAGE FOLLOWING THE CASCADE PRINCIPLE: ESSENTIAL OIL, ABSORBENTS AND BIOCHAR
Irene MEDIAVILLA, CEDER-CIEMAT, Energy Dpt., SPAIN
Co-authors: L. Barros, V. Xavier, T.C. Finimundy, J.S. Amaral, CIMO, Bragança, Portugal; A.M. Rizzo, D. Casini, G. Lombardi, RE-CORD, Scarperia e San Piero, Italy; M. Cámara, A. Suárez, T. Ardid, TOLSA, Madrid, Spain; L.S. Esteban, CEDER-CIEMAT, Lubia, Spain

15:00 - 16:00
ORAL SESSION 3BO.9
Flexible and Multifunctional Bioenergy Systems

CHAIRPERSONS:
Elina HAKKARAINEN, VTT Technical Research Centre of Finland, FINLAND
(INVITED) Ursel HORNUNG, Karlsruhe Institute of Technology, GERMANY

3BO.9.1
FLEXIBLE APPLICATION OF BIOGAS UPGRADING MEMBRANES IN POWER-TO-METHANE PROCESSES
Andreas GANTENBEIN, Paul Scherrer Institute (PSI), SWITZERLAND
Co-authors: O. Kröcher, S.M.A. Biollaz, T.J. Schildhauer, Paul Scherrer Institute, Villigen PSI, Switzerland

3BO.9.2
A TWO-STAGE MODEL PREDICTIVE CONTROL ALGORITHM FOR BIOGAS PHOTOVOLTAIC HYBRID SYSTEM
Tobias BALDAUF, Technische Hochschule Ingolstadt, GERMANY
Co-authors: K. Bär, W. Zörner, Technische Hochschule Ingolstadt, Ingolstadt, Germany

3BO.9.3
THE ROLE OF BIOMASS IN THE FUTURE POWER SYSTEM: BIOMASS-BASED HYDROGEN AND BIOMASS-FUELED POWER PLANTS
Karla GUERRA, AICIA, SPAIN
Co-authors: R. Gutiérrez, P. Haro, Universidad de Sevilla, Spain

3BO.9.4
INTEGRATION OF BIOMASS WITH HYGROELECTRICITY PRODUCTION
Fernando GALEMBECK, University of Campinas, BRAZIL
Co-authors: L.P. Santos, R.G. Yoshimura, Galembeteck Consultores e Tecnologia LTDA, Campinas, Brazil; A. Galembeck, Universidade Federal de Pernambuco, Recife, Brazil

16:00 - 16:15 **Break**

16:15 - 17:15
ORAL SESSION 1BO.10
Quality and integrated biomass value chains

Quality and integrated biomass value chains: its relevance for biomass production for energy

CHAIRPERSONS:
Ana Luisa FERNANDO, Universidade Nova de Lisboa, PORTUGAL
Luigi PARI, CREA- Council for Agricultural Research and Economics, ITALY

1BO.10.1
IMPROVING THE CALORIFIC VALUE QND OVERALL COMBUSTION CHARACTERISTICS OF MISCANTHUS BY ADDING BIOMASS OF CERTAIN PERENNIAL HERBACEOUS WILD PLANT SPECIES
Moritz VON COSSEL, University of Hohenheim 340b, Biobased Resources in the Bioeconomy (340b), GERMANY
Co-authors: F. Lebendig, M. Müller, Institute of Energy and Climate Research, IEK-2, Forschungszentrum Jülich GmbH, Jülich, Germany; Y. Iqbal, College of Bioscience and Biotechnology, Hunan Agricultural University, Changsha, P.R. China; N.D. Jablonowski, Institute of Bio- and Geosciences, IBG-2: Plant Sciences, Forschungszentrum Jülich GmbH, Jülich, Germany

1BO.10.2
ASH CONTENT OF WOODY BIOMASS OF TWELVE TAXA IN SHORT ROTATION ENERGY CROPS
Ines BAUTISTA CARRASCOSA, IMIDRA, AgroEnvironmental Research Dpt., SPAIN
Co-authors: I. Bautista Carrrascosa, M.C. Amoros, D. Mostaza-Colado, C. Cano-Shaw, J. Plaza, P.V. Mauri Ablanque, IMIDRA, Alcalá de Henares, Spain

1BO.10.3
HALOPHYTE-BASED GREEN BIOREFINERY: POTENTIAL BIOMASS FEEDSTOCKS AND PROCESSING ROUTES
Laura Sini Sofia HULKKO, Aalborg University, DENMARK
Co-authors: T. Chaturvedi, M.H. Thomsen, Aalborg University, Esbjerg, Denmark; A. Turcios, J. Papenbrock, Leibniz Universität Hannover, Hannover, Germany

1BO.10.4
COULD CONTAMINATED LAND PROVIDE SUSTAINABLE FEEDSTOCK'S FOR LIQUID BIOFUELS?
Benjamin NUNN, University of Strathclyde, Civil and Environmental Engineering Dpt., UNITED KINGDOM
Co-authors: R Lord, C Davidson, University of Strathclyde, Glasgow, United Kingdom

16:15 - 17:15
ORAL SESSION 6BO.11
Innovative concepts and modelling

CHAIRPERSONS:
Monique AXELOS, INRAE, FRANCE
Liang WANG, Zhejiang University, P.R. CHINA

6BO.11.1
VANILLIN BY ELECTROCHEMICAL TRANSFORMATION OF KRAFT LIGNIN OR BLACK LIQUOR
Siegfried WALDVOGEL, University Mainz, GERMANY
Co-authors: R. Tschentscher, B Wittgens, SINTEF, Trondheim, Norway; J. Panther, N. Schupp, University Mainz, Germany; T Grassl, CONDIAS, Itzehoe, Germany

6BO.11.2
PROCESS INTENSIFICATION BY APPLYING OSCILLATORY FLOW IN BIOREFINERIES
Judith BUCHMAIER, AEE - Institute for Sustainable Technologies, AUSTRIA
Co-authors: S. Krampl, B. Muster, AEE - Institute for Sustainable Technologies, Gleisdorf, Austria; B. Nidetzky, Eibinger, G. Kaira, Graz University of Technology, Austria

6BO.11.3
EXTRUSION OF LIGNOCELLULOSIC RESIDUES FROM AGRICULTURE AND AGROFORESTRY INTO FIBRE FOR PEAT REPLACEMENT AND PELLETS FOR ANIMAL BEDDING
Ralf PECENKA, Leibniz Institute for Agricultural Engineering and Bioeconomy, Post Harvest Dpt., GERMANY
Co-authors: C. Dittrich, Leibniz Institute for Agricultural Engineering and Bioeconomy, Potsdam, Germany; A. Kir, Olive Research Institute, Izmir, Turkey; F. Righi, University of Parma, Italy; A.-K. Løes, Norwegian Centre for Organic Agriculture, Tingvoll, Norway; U. Schmutz, Coventry University, United Kingdom

6BO.11.4
Invited

16:15 - 17:15
ORAL SESSION 3BO.12
The role of bioenergy in energy transitions

CHAIRPERSONS:
Luc PELKMANS, IEA Bioenergy, BELGIUM
Rainer JANSSEN, WIP Renewable Energies, GERMANY

3BO.12.1
THE ROLE OF ANCILLARY BIOENERGY IN 100% RENEWABLE EUROPEAN ENERGY SYSTEMS IN 2050
Fei WU, ETH Zurich, SWITZERLAND
Co-authors: A Müller, FibL, Frick, Switzerland; S Pfenninger, TU Delft, Delft, The Netherlands

3BO.12.2
THE ROLE OF FOREST BIOMASS IN FRENCH ENERGY TRANSITION
Zixuan WANG, Centre for Applied Mathematics - Mines ParisTech, Centre for Applied Mathematics - Mines ParisTech, FRANCE
Co-author: E. Assoumou, Centre for Applied Mathematics - Mines ParisTech, Sophia Antipolis, France

3BO.12.3
Invited

3BO.12.4
UPDATES FROM THE REPLACE PROJECT - A LOCAL ADAPTED HEATING SYSTEM CALCULATOR AND CAMPAIGNS TO FOSTER THE REPLACEMENT OF FOSSIL HEATING SYSTEMS WITH RENEWABLES
Ingo BALL, WIP Renewable Energies, Unit Bioenergy & Bioeconomy, GERMANY
Co-authors: D. Rutz, B. Di Costanzo, R. Janssen, WIP Renewable Energies, Munich, Germany; H. Tretter, K. Knaus, Austrian Energy Agency, Vienna, Austria; S. Drexlmeier, C. Baumann, H. Unterpertinger, Civic Foundation Energiewende Oberland, Penzberg, Germany; F. Puente, Escan s.l., Madrid, Spain; V. Segon, Regionalna energetska agencija Sjeverozapadne Hrvatske, Zagreb, Croatia; D. Balic, Energy Institute Hrvoje Požar, Zagreb, Croatia; F. Silajdzic, ENOVA, Sarajevo, Bosnia And Herzegovina; A. Nikolaev, Black Sea Energy Research Centre, Sofia, Bulgaria; S. Jerotic, City of Sabac, Sabac, Serbia; G. Stegnar, Institut JoZef Stefan, Ljubljana, Slovenia Republic; N. Markovska, SDEWES-Skopje, Skopje, Macedonia; R. Ayuste Cupido, Regional Energy Agency of Castilla y León, León, Spain

17:15 - 17:30 **Break**

17:30 - 18:30
ORAL SESSION 1BO.13
Microalgae's role in waste treatment and system modeling

This session explores the roles for microalgae in treating waste effluents from agriprocessing, urban waste disposal, and closed environment life support systems. Improving microalgae productivity using new system modeling techniques will also be introduced.

CHAIRPERSONS:
Scott TURN, University of Hawaii, USA
Jack LEGRAND, University of Nantes, FRANCE

1BO.13.1

1BO.13.2
EVALUATION OF MUNICIPAL LANDFILL LEACHATE TREATMENT BY MICROALGAE
Giovanni BIANCINI, eCampus University, CREAT, ITALY
Co-authors: B. Marchetti, L. Cioccolanti, M. Moglie, eCampus University, Novedrate, Italy

1BO.13.3
THE RHYTHM OF THE NIGHT (AND DAY): ADVANCED DATA DRIVEN DIURNAL METABOLIC MODELING OF CHLAMYDOMONAS REINHARDTII ACCURATELY PREDICTS PHENOTYPE FROM GENOTYPE
Nanette BOYLE, Colorado School of Mines, Department of Chemical and Biological Engineering, USA
Co-author: A.J. Metcalf, Colorado School of Mines, Golden, Usa

1BO.13.4
WASTE MANAGEMENT FOR THE ISS
USING SALTWATER MICROALGAE
Jennifer GIL ACEVEDO, University of Puerto Rico, Environmental Science Dpt., PUERTO RICO
Co-author: L. Diaz, University of Puerto Rico, San Juan, Puerto Rico

17:30 - 18:30
ORAL SESSION 6BO.14
Co-production of biofuels and biochemicals

CHAIRPERSONS:
Miloud OUADI, Birmingham University, UNITED KINGDOM

6BO.14.1
EBIO PROJECT, BIOFUELS THROUGH ELECTROCHEMICAL TRANSFORMATION OF INTERMEDIATE BIO-LIQUIDS
Robbie VENDERBOSCH, BTG Biomass Technology Group, R&D Dpt., THE NETHERLANDS
Co-authors: E. FROMANT, S, Capaccioli, ETA-Florence Renewable Energies, Florence, Italy; R. Tschentscher, B. Wittgens, SINTEF, Oslo, Norway; S.R. Waldvogel, J Panther, Johannes Gutenberg Universität Mainz, Mainz, Germany; Ö Bozkurt, Tüpras, Kocaeli, Turkey; S.R. Celebi, Tüpras, FloreKocaelince, Turkey; T. Graßl, CONDIAS, Itzehoe, Germany; B. Mei, G. Mul, University of Twente, Enschede, The Netherlands; Y. Matthieu, A. Corma, Instituto de Tecnología Química UPV/CSIC, Valencia, Spain; J. Kihlman, A. Hagelqvist, C. Hjerpe, AFRY, Solna, Sweden

6BO.14.2
HOW BIOMASS AND GREEN HYDROGEN (I.E. BOTH FROM BIOMASS AND EXCESS RENEWABLE ELECTRICITY) COULD HELP TRANSFORM THE GERMAN BASE CHEMICALS SECTOR.
Frazer MUSONDA, Helmholtz Centre for Environmental Research, Bioenergy Dpt., GERMANY
Co-authors: D. Thrän, Helmholtz Centre for Environmental Research, Leipzig, Germany; M. Millinger, Chalmers University, Gothenburg, Sweden

6BO.14.3
EUBCE Student Awardee Presentation
EXTENDED OPERATING TIME FOR EXISTING CHP PLANTS BY CO-PRODUCTION OF CLIMATE EFFICIENT BIO OIL
Malin PETTERSSON, Lund University, Environmental and Energy Systems, SWEDEN
Co-authors: L Björnsson, P Börjesson, Lund University, Sweden; C Gustavsson, Karlstad University, Sweden; P Ottosson, Kraftringen Energi, Lund, Sweden

6BO.14.4
NOVEL CATALYTIC TAR CRACKING REACTOR FOR BIO-BTX CO-PRODUCTION FROM GASIFICATION
Eleni LIAKAKOU, TNO, Biomass & Energy Efficiency, THE NETHERLANDS
Co-authors: C. van der Meijden, B.J. Vreugdenhil, TNO, Petten, The Netherlands

17:30 - 18:30
ORAL SESSION 3BO.15
Biobased Transitions in Regions and Markets

Transitions into biobased energy and materials will require integration of bioenergy in regions and sectors with specific opportunities. This sessions will present optimised opportunities for integration.

CHAIRPERSONS:
Daniela THRÄN, DBFZ-German Biomass Research Centre / UFZ, GERMANY
René VENENDAAL, BTG Biomass Technology Group, THE NETHERLANDS

3BO.15.1
SMART STRATEGIES FOR THE TRANSITION IN COAL INTENSIVE REGIONS
Rita MERGNER, WIP Renewable Energies, GERMANY
Co-authors: R Janssen, D Rutz, WIP Renewable Energies, Munich, Germany; C. Malamatenios, CRES, Athens, Greece; D. Knoche, A. Rademacher, R. Schlepphorst, FIB, Finsterwalde, Germany; R. Michie, University of Strathclyde, Glasgow, United Kingdom; A. Nikolaev, BSERC, Sofia, Bulgaria; C. Doczekal, GET, Güssing, Austria; N. de la Vega, EUREC, Brussels, Belgium; G. Popescu, ISPE, Bucharest, Romania; J Lukic, ENTEL, Belgrade, Serbia; D. Bondzyk, CETI, Kyiv, Ukraine; M. Pietrzykowski, University of Agriculture, Krakow, Poland; K. Palmer, Welsh Government, Cardiff, United Kingdom; J. Frouz, Charles University, Prague, Czech Republic; M. Hendrychova, Czech University of Life Sciences Prague, Czech Republic; S Irimie, Jiu Valley Social Institute Association, Petrosani, Romania

3BO.15.2
Invited

3BO.15.3
MARKET UPTAKE SUPPORT FOR INTERMEDIATE BIOENERGY CARRIERS - MUSIC PROJECT RESULTS
Patrick REUMERMAN, BTG Biomass Technology Group, THE NETHERLANDS
Co-authors: J. Vos, BTG Biomass Technology Group BV, Enschede, The Netherlands; R Janssen, WIP Renewable Energies, Munich, Germany

3BO.15.4

TECHNO-ECONOMIC PREREQUISITES FOR NOVEL BIODIESEL PRODUCTION BASED ON RESIDUES FROM THE PULP INDUSTRY

Sofia KLUGMAN, IVL Swedish Environmental Research Institute, SWEDEN

Co-authors: T. Lönnqvist, IVL Swedish Environmental Research Institute, Stockholm, Sweden; J. Granacher, École Polytechnique Fédérale de Lausanne (EPFL), Lousanne, Switzerland

Wednesday, 11 May 2022

Oral presentations

09:00 - 10:00
ORAL SESSION 1CO.1
Resource efficient agriculture and forestry

CHAIRPERSONS:
Efthymia ALEXOPOULOU, CRES - Center for Renewable Energy Sources and Saving, GREECE

1CO.1.1
CURRENT SYSTEM BOUNDARIES IN LIFE-CYCLE ASSESSMENTS OF RESIDUES FROM AGRICULTURE AND FORESTRY: A REVIEW
Christoph SIOL, Deutsches Biomasseforschungszentrum (DBFZ), GERMANY
Co-authors: D. Thrän, Helmholtz-Centre for Environmental Research – UFZ, Leipzig, Germany; S. Majer, Deutsches Biomasseforschungszentrum (DBFZ), Leipzig, Germany

1CO.1.2
PARAMETRIC ANALYSIS OF BIOETHANOL, BIOGAS, AND SYNGAS PRODUCTION FROM RICE AND COFFEE CROPS RESIDUES BY PROCESS SIMULATION - SUSTAINABLE ASSESSMENT
Daniel BERNIER-OVIEDO, Universidad de Caldas, Engineering Dpt., COLOMBIA
Co-authors: A. Duarte, Universidad de Caldas, Manizales, Colombia; A. Calderón, KeyLogic, Inc. Process systems Engineering Team, Pittsburgh, Usa; C. Triana, Process system enterprises (PSE), London, United Kingdom

1CO.1.3
EUBCE Student Awardee Presentation
EUCALYPTUS FOREST RESIDUES POTENTIAL TO MITIGATE GHG EMISSIONS IN BRAZIL: A CASE STUDY FOR SÃO PAULO AND ITS INTERFACE WITH LOW-CARBON POLICIES
Guilherme NOGUEIRA, Brazilian Biorenewables National Laboratory, Biorefineries and Natural Resources, BRAZIL
Co-authors: C.W.S Romero, R.A.C. Lamparelli, T.T. Franco, C.K.N Cavaliero, University of Campinas, Campinas, Brazil; M.O.S. Dias, Federal University of São Paulo, São José dos Campos, Brazil

1CO.1.4
CASTOR BEANS MECHANICAL HARVESTING: CROP TERMINATION AND COMPARISON BETWEEN CEREAL AND SUNFLOWER HEADER' PERFORMANCE INSTALLED ON A CONVENTIONAL COMBINE HARVESTER
Walter STEFANONI, CREA-IT, ITALY
Co-authors: F. Latterini, N. Palmieri, S. Lazar, L. Pari, CREA-IT, Monterotondo, Italy; C. Cavalaris, Department of Agricultural Crop Production and Rural Environment, School of Agricultural Sciences,, Volos, Greece; C. Karamoutis, CREA-ITDepartment of Agricultural Crop Production and Rural Environment, School of Agricultural Scie, Volos, Greece; E. Alexopoulou, Centre for Renewable Energy Sources and Saving, Pikermi, Greece

09:00 - 10:00
ORAL SESSION 2CO.2
Socio-economic approaches in bioenergy and bioecnomy

This session will look at some of the methods for engaging with stakeholders and assess the socio-economic implications of biomass in the bioeconomy and bioenergy

CHAIRPERSONS:
Rocio DIAZ-CHAVEZ, Stockholm Environment Institute, KENYA
Suani COELHO, University of São Paulo, BRAZIL

2CO.2.1
EXPLORING THE GROWTH OF THE BIOPLASTICS SECTOR WITH FUZZY COGNITIVE MAPS
Aikaterini KONTI, European Commission JRC, ITALY
Co-authors: D. Mamma, D. Damigos, National Technical University of Athens, Athens, Greece; N. Scarlat, European Commission JRC, Ispra, Italy

2CO.2.2
SIMPLE AND SMART COMMUNITIES FOR ALL
Rita MERGNER, WIP Renewable Energies, GERMANY
Co-authors: D. RUTZ, R Janssen, WIP Renewable Energies, Munich, Germany; A Holzmann, K Schilcher, A Sahin, Austrian Energy Agency, Vienna, Austria; U Höhne, N Fenz, OurPower, Vienna, Austria; A Nikolaev, M Trifonova, BSERC, Sofia, Bulgaria; T Heinel, A Burmeister, BSU, Berlin, Germany; B Dannemann, DGRV, Berlin, Germany; E Süle, N Sumbadze, AYPEG, Tbilisi, Georgia; S Robic, T Simek, REGEA, Zagreb, Croatia; B Kovács, MTVSZ, Budapest, Hungary; K Szabó, Reflex, Budapest, Hungary

2CO.2.3
ENGAGING SOCIAL ACTORS FOR ACCEPTANCE OF THE BIOECONOMY
Yara EVANS, Imperial College London, Centre for Environmental Policy, UNITED KINGDOM
Co-author: R. Diaz-Chavez, Imperial College London, United Kingdom

2CO.2.4
INTEGRATED ENVIRONMENTAL AND SOCIAL LIFE CYCLE ASSESSMENT OF A REGIONAL INDUSTRIAL BIO-BASED NETWORK IIN CENTRAL GERMANY
Alberto BEZAMA, Helmholtz Centre for Environmental Research, Bioenergy Dpt., GERMANY
Co-authors: J. Hildebrandt, Zittau/Görlitz University of Applied Sciences, Institute for Process Development, Peat and Natural M, Zittau, Germany; W. Zeug, D. Thrän, Helmholtz Centre for Environmental Research, Leipzig, Germany

09:00 - 10:00
ORAL SESSION 3CO.3
Biorefinery processes

Encompasses biorefinery processes

CHAIRPERSONS:
Florbela CARVALHEIRO, LNEG - Laboratório Nacional de Energia e Geology, PORTUGAL
Stamatios KALLIGEROS, Hellenic Naval Academy, GREECE

3CO.3.1
OPTIMIZATION OF THE CULTIVATION CONDITIONS OF CUPRIAVIDUS NECATOR FOR THE PRODUCTION OF POLYHYDROXYALKANOATES FROM CASSAVA PEELS WASTE
Carmen HIERRO-IGLESIAS, Aston University, Chemical Engineering Dpt., UNITED KINGDOM
Co-authors: A. Chimphango, University of Stellenbosch, South Africa; P. Thornley, A. Fernandez-Castane, Aston University, Birmingham, United Kingdom

3CO.3.2
EXPERIENCES FROM PILOT SCALE FT PRODUCTION FROM GASIFICATION
Berend VREUGDENHIL, TNO, Bio Energy & Efficiency Dpt., THE NETHERLANDS
Co-authors: B. Vreugdenhi, E. Boymans, TNO, Petten, The Netherlands

3CO.3.3
COMPLETE VALORISATION OF GIANT REED: INTEGRATED EXPLOITATION OF HEMICELLULOSE, CELLULOSE AND LIGNIN FRACTIONS TOWARDS VALUABLE BIO-BASED PRODUCTS ADOPTING GREEN PROCESS CONDITIONS
Nicola DI FIDIO, University of Pisa, Chemistry and Industrial Chemistry Dpt., ITALY
Co-authors: D. Licursi, C. Antonetti, M. Puccini, S. Vitolo, A.M. Raspolli Galletti, University of Pisa, Italy

3CO.3.4
OPPORTUNITIES OF HYDROTHERMAL CARBONIZATION IN CHILE: USE F URBAN GREENING WASTE FOR THE PRODUCTION OF SOLID BIOFUELS AND CHEMICAL BUILDING BLOCKS FOLLOWING A BIOREFINERY CONCEPT
Laura AZÓCAR ULLOA, Universidad Católica de Concepción, CHILE
Co-author: G. Saiz, Universidad Católica de Concepción, Chile

10:00 - 10:15 **Break**

10:15 - 11:30
PLENARY SESSION CP.1
Technology innovation for biomass conversion to bioenergy

CHAIRPERSONS:
Ingwald OBERNBERGER, BIOS Bioenergiesysteme, AUSTRIA
Jaap KIEL, TNO Energy Transition, THE NETHERLANDS

CP.1.1
INTEGRATED GAS CLEANING CONCEPT FOR THE USE OF PRODUCT GAS FROM AN UPDRAFT GASIFIER IN AN SOFC
Ingwald OBERNBERGER, BIOS Bioenergiesysteme, AUSTRIA
Co-authors: K. Supancic, BIOS Bioenergiesysteme, Graz, Austria; J. Sitzmann, Calida Cleantech GmbH, Schwabach, Germany

CP.1.2
SUPPORTING INTERNATIONAL COOPERATION ON BIOGAS - THE DIBICOO PROJECT
Dominik RUTZ, WIP Renewable Energies, Bioenergy & Bioeconomy Unit, GERMANY
Co-authors: C. Ma, R. Janssen, WIP Renewable Energies, München, Germany

CP.1.3
Invited

11:30 - 11:45 Break

11:45 - 12:45
ORAL SESSION 1CO.4
The contribution of waste exploitation to reaching a circular economy

CHAIRPERSONS:
Andrea SALIMBENI, EUBIA, SPAIN
Vincenzo MOTOLA, ENEA - Trisaia Research Center, ITALY

1CO.4.1
WASTE NOT, WANT NOT: THE REAL COST AND ENVIRONMENTAL IMPACT OF UK WASTE
Zeinab ZANDIEH, Aston University, UNITED KINGDOM
Co-authors: P. Thornley, K. Chong, Aston University, Birmingham, United Kingdom

1CO.4.2
CHARACTERIZATION AND TREATMENT OF NON-RECYCLABLE PLASTICS FRACTION IN MUNICIPAL SOLID WASTE STREAMS: BIOTECHNOLOGICAL APPROACH TO ADDRESS THE LOW PLASTIC RECYCLING SHARE
Maria J. LOPEZ, University of Almeria, SPAIN
Co-authors: M.-A. Pierrard, IDELUX Environnement, Arlon, Belgium; R. Moral, J. Andreu, Miguel Hernandez University, Orihuela, Spain; P. Barranco, T. Cabello, University of Almeria, Spain; V. Olmos, N. Palombo Blascetta, Iris Technology, Cornellà de Llobregat, Spain; N. Barbani, University of Pisa, Pisa, Italy; R. Turri, ENCO, Naples, Italy; P. Cinelli, University of Pisa, Italy

1CO.4.3
DEVELOPMENT OF A FRAMEWORK FORR FORECASTING RESIDENTIAL AND NON-RESIDENTIAL SOLID WASTE GENERATION, DISPOSAL AND DIVERSION USING MACHINE LEARNING APPROACHES
Md Mashum BILLAL, University of Alberta, CANADA
Co-authors: R.M. Sebastian, A. Kumar, University of Alberta, Edmonton, Canada

1CO.4.4
INTEGRATION OF SEWAGE SLUDGE THERMOCHEMICAL PROCESSING IN MSW FACILITIES
Sonia L. RINCON PRAT, National University of Colombia, Mechanical and Mechatronics Engineering Dpt., COLOMBIA
Co-author: A.G. Gomez Mejia, National University of Colombia, Bogotá, Colombia

11:45 - 12:45
ORAL SESSION 2CO.5
Sustainability and socio-economic views of bioenergy and bioeconomy beyond the EU

The session focuses on sustainability and socio-economic impacts and advances of bioenergy and bioeconomy outside the EU.

CHAIRPERSONS:
Alexa LUTZENBERGER, ALRENE, GERMANY
Yara EVANS, Imperial College London, UNITED KINGDOM

2CO.5.1
THE FUTURE OF BIOENERGY IN SUB-SAHARAN AFRICA
Mirjam ROEDER, Aston University, Energy and Bioproducts Research Institute, UNITED KINGDOM
Co-authors: K. Chong, P. Thornley, Aston University, Birmingham, United Kingdom

2CO.5.2
WHAT IS NEEDED TO CONSIDER WHEN MONITORING SUSTAINABILITY IN BIOECONOMY IN THE GLOBAL SOUTH.
Rocio DIAZ-CHAVEZ, Stockholm Environment Institute, Africa Centre, KENYA
Co-author: I. Virgin, Stockholm Environment Institute, Sweden

2CO.5.3
ATTITUDES AND PERCEPTIONS OF WOOD ENERGY: UNDERSTANDING HOW SCALE AND LOCATION SHAPE PUBLIC ACCEPTANCE
Sarah MITTLEFEHLDT, Northern Michigan University, Earth, Environmental & Geographical Sciences Dpt., USA
Co-authors: E. Huff, Michigan State University, Lansing, Usa; E. Bunting, J. Welsh, Michigan State University, Lansing, Usa

2CO.5.4
FOREST RESIDUES CONSUMPTION BY HOUSEHOLDS IN LARGE URBAN CENTERS IN BRAZIL: AN OVERVIEW.
Ana Paula de Souza SILVA, Instituto de Pesquisas Tecnológicas, BRAZIL
Co-authors: M.J.N Anater, D.H. Amaral, S.A. Neiva, S.T Coelho, Universidade de São Paulo - USP, Brazil

11:45 - 12:45
ORAL SESSION 5CO.6
Oil-based and renewable hydrocarbon biofuels

This session looks at various innovative processes for the production of sustainable aviation fuels and emerging technologies that can be integrated into existing processes at oil refineries, along with associated impacts on greenhouse gas emissions.

CHAIRPERSONS:
David BAXTER, Former European Commission, Joint Research Centre, EU
Dimitrios SIDIRAS, University of Piraeus, GREECE

5CO.6.1
Invited

5CO.6.2
CATALYTIC HYDROTREATMENT OF CRUDE BIO-OILS APPLYING HYDROGEN-DONOR SOLVENTS
Roman TSCHENTSCHER, SINTEF, Process Chemistry and Functional Materials, NORWAY
Co-authors: F. Gilles, INP-Toulouse, France; L. Simon, Saint Gobain, Nemours, France; P. Biller, Aarhus University, Denmark; A. Pandurangan, Anna University, Chennai, India

5CO.6.3
DATA ACQUISITION FOR UPGRADING BIO-OILS: CO-PROCESSING OF BIO-OILS IN PETROLEUM REFINERIES CATALYTIC UNITS
Ricardo SOARES, Universidade Federal de Uberlandia, Chemical Engineering Dpt., BRAZIL
Co-authors: M. Rezende, D. Souza, Federal University of Uberlândia, Brazil

5CO.6.4
GREENHOUSE GASES EMISSIONS ACCOUNTING OF CO-PROCESSED FUELS INTO EXISTING OIL REFINERIES
Marco BUFFI, European Commission Joint Research Centre, Institute for Energy - Renewable Energy Unit, ITALY
Co-authors: O. Hurtig, N. Scarlat, European Commission Joint Research Centre, Ispra, Italy; A. O'Connell, International Council on Clean Transportation, Berlin, Germany

12:45 - 13:45 **Break**

13:45 - 14:45
PLENARY SESSION CP.2
Biomass Conversion to Intermediate Bioenergy Carriers

CHAIRPERSONS:
James SPAETH, Energy Efficiency and Renewable Energy U.S. Department of Energy,US, USA
Maria GEORGIADOU, European Commission, DG RTD, EU

CP.2.1
PROCESS DESIGN FOR PRODUCTION OF BIOFUELS FROM PAPER SLUDGE VIA FERMENTATIONA AND CHEMO-CATALYTIC CONVERSIONS
Ana LOPEZ CONTRERAS, WUR, THE NETHERLANDS
Co-authors: J.W. Dijkstra, K. Dussan, TNO, Petten, The Netherlands; T. de Vrije, M. Budde, D. van Seijst, J. van Medevoort, R.K. Pazhavelikkakath Purushothaman1, J. van Haveren, P.A.M. Claassen, WUR, Wageningen, The Netherlands; B. van den Burg, Imenz, Groningen, The Netherlands; O.M. Morales-González, F. Ferrari, Good Fuels, Amsterdam, The Netherlands; M. Rep, HyGear, Arnhem, The Netherlands; A. Hakeem, M. van Haute, KPRT, Europoort, The Netherlands

CP.2.2
WHAT IT TAKES TO CONTINUOUSLY HYDROPROCESS DIFFERENT HYDROTHERMAL LIQUEFACTION BIOCRUDES: CHALLENGES, PROSPECTS, ACHIEVEMENTS, AND DROP-IN FUEL POTENTIAL
Muhammad Salman HAIDER, Aalborg University, AAU Energy, DENMARK
Co-authors: D. Castello, L.A. Rosendahl, Aalborg University, Denmark

14:45 - 15:00 **Break**

15:00 - 16:00
ORAL SESSION 1CO.7
New approaches and techniques in waste management

CHAIRPERSONS:
Jose CARABALLO, Abengoa Bioenergy, SPAIN
Alessandro SINGLITICO, National University of Ireland, IRELAND

1CO.7.1
THERMO-CATALYTIC REFORMING OF GENERAL WASTE TO PRODUCE BIOFUELS
Hillary Onyebuchi ONYISHI, Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT, Renewable Energy, GERMANY
Co-authors: R. Daschner, J. Neidel, A. Apfelbacher, A. Hornung, Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT, Sulzbach-Rosenberg, Germany

1CO.7.2
VALORISATION AND RECYCLING OF AQUEOUS PHASE FROM HYDROTHERMAL LIQUEFACTION (HTL) FOR ITS EFFIECINT INTEGRATION WITH WASTEWATER TREATMENT PLANT (WWTP)
Swanand BHATWADEKAR, Aalborg University, DENMARK
Co-authors: K Sharma, E.M.L. Sanchez, S.S. Toor, T.H. Pedersen, Aalborg University, Denmark

1CO.7.3
GREEN REDUCTION OF BAUXITE RESIDUE TO IRON ZERO BASED CATALYST FOR HYDROTHERMAL LIQUEFACTION OF MUNICIPAL SOLID WASTE
Kamaldeep SHARMA, Aalborg University, Department of Energy, DENMARK
Co-authors: K.K.S. Kohansal, A.J.A. Azuara, T.H.P. Pedersen, Aalborg University, Denmark

1CO.7.4
VALORISATION OF PRIMARY SEWAGE SLUDGE AS SOLVENT DURING HYDROTHERMAL LIQUEFACTION OF THE ORGANIC FRACTION OF MUNICIPAL SOLID WASTE
Sanette MARX, North-West University, Centre of Excellence in Carbon-based Fuels, SOUTH AFRICA
Co-authors: R.J. Venter, H.M.S. Nel, North-West University, Potchefstroom, South Africa

15:00 - 16:00
ORAL SESSION 2CO.8
Sustainability and socio-economic governance in bioeconomy and bioenergy

This session focuses on stakeholders and governance systems.

CHAIRPERSONS:
Constance MILLER, FAO, ITALY
Beike SUMFLETH, DBFZ Deutsches Biomasseforschungszentrum gemeinnützige, GERMANY

2CO.8.1
DIET-ENERGY NEXUS: MEETING CLIMATE TARGETS BY SHIFTS IN FOOD-DEMAND
Katrina CHAN, Helmholtz-Zentrum für Umweltforschung, Bioenergy, GERMANY
Co-authors: D. Esmaeili Aliabadi, Helmholtz-Zentrum für Umweltforschung, Leipzig, Germany; U. A. Schneider, Universität Hamburg, Research Unit Sustainability and Global Change, Hamburg, Germany; D. Thrän, Helmholtz-Zentrum für Umweltforschung & Deutsches Biomasseforschungszentrum gGmbH–DBFZ, Department o, Leipzig, Germany

2CO.8.2
Invited

2CO.8.3
BEYOND TECHNOLOGIES: THE SOCIO-ENVIRONMENTAL ROLE OF BIOREFINERIES
Xavier GABET, TU Wien, Chemical Engineering Dpt., AUSTRIA
Co-authors: F. Magnolo, S. Speelman, Ghent University, Belgium; M. Harasek, TU Wien, Austria

2CO.8.4
THE ACCEPTANCE OF STRAW PELLETS FOR BIOGAS PRODUCTION IN GERMANY - A UTAUT BASED PLS-SEM ESTIMATION
Soren MOHRMANN, Department of Agricultural Economics and Rural Development Agribusiness Management, Agribusiness Management Dpt-, GERMANY
Co-author: V. Otter, Wageningen University, The Netherlands

15:00 - 16:00
ORAL SESSION 4CO.9
Biomass pretreatment for intermediates products

The session covers characterisation of properties for solid fuel energy applications, as well as pretreatment and biomass handling technologies.

- Biomass pretreatment and densification;
- Physical, chemical, physico-chemical and biological methods for biomass
- pretreatment;
- Process development and optimisation;
- Characterisation and utilisation of solid fuels and intermediates;
- Logistics, storage and distribution

CHAIRPERSONS:
Thomas SCHLEKER, European Commission, DG RTD, EU
Aidan SMITH, Aarhus University, DENMARK

4CO.9.1
EFFECTIVENESS OF DIFFERENT WATER LEACHING PRE-TREATMENT APPROACHES ON BIOMASS FUEL COMPOSITION, LEACHING KINETICS, COMBUSTION PROPERTIES, AND PYROLYSIS PRODUCT YIELD
Abhishek SINGHAL, Tampere University, Engineering and Natural Science, FINLAND
Co-authors: A. Bhatnagar, J. Konttinen, T. Joronen, Tampere University, Finland

4CO.9.2
TORREFACTION OF LIGNOCELLULOSIC BIOMASS IN A MULTIPLE HEARTH FURNACE: PRESENTATION OF THE MODELLING METHODOLOGY AND THE EXPERIMENTAL PROTOCOL
Elie LACOMBE, French Alternative Energies and Atomic Energy Commission (CEA), LITEN, SCPC, Reactor and Process Lab, LITEN, CEA Dpt., FRANCE
Co-authors: T. Melkior, M. Marchand, French Alternative Energies and Atomic Energy Commission (CEA), LITEN, SCPC, Reactor and Process Lab, Grenoble, France; C. Dupont, Department of Water Supply Sanitation and Environmental Engineering, Delft, The Netherlands

4CO.9.3
THERMOCHEMICAL POTENTIAL OF LOW ILUC RISK GRASSES: THE CASE STUDY OF GIANT REED CULTIVATED IN HEAVY METAL CONTAMINATED SOILS
Leandro GOMES, Universidade Nova de Lisboa. Faculdade de Ciências e Tecnologia. NIF 501 559 094, PORTUGAL
Co-authors: J. Costa, Instituto Superior de Educação e Ciências, Lisboa, Portugal; F. Santos, Universidade Estadual do Rio Grande do Sul, Porto Alegre, Brazil; A. L. Fernando, Universidade Nova de Lisboa, Almada, Portugal

4CO.9.4
BIOTFUEL PROJECT: SOLID RESIDENCE TIME MEASUREMENT IN THE MULTIPLE HEARTH FURNACE ON THE PRETREATMENT DEMONSTRATION PLANT
Mathieu MORIN, IFP Energies Nouvelles, Chemical Engineering and Technology Dpt., FRANCE
Co-authors: S. Gonnard, IFP Energies Nouvelles, Solaize, France; M. Grateau, A. Chartroux, A. Berthellemy, CEA, Grenoble, France

16:00 - 16:15 **Break**

16:15 - 17:15
ORAL SESSION 5CO.10
Advances in bio-ethanol and other alcohols production

Recent advances and on production of advanced biofuels from lignocellulosic wastes shall be presented.

CHAIRPERSONS:
Francisco GIRIO, LNEG - Laboratorio Nacional de Energia e Geologia, PORTUGAL
Joshua MESSNER, U.S. Department of Energy, USA

5CO.10.1
PRODUCTION OF BIO-ETHANOL FROM BEECH WOOD PELLETS VIA MILD ACETONE ORGANOSOLV FRACTIONATION
Ana LOPEZ CONTRERAS, WUR, THE NETHERLANDS
Co-authors: K. Dussan, P.A. Bonouvrie, A.T. Smit, TNO Energy Transition, Petten, The Netherlands; T. De Vrije, R. Van De Vondervoort, Wageningen Food and Biobased Research, The Netherlands

5CO.10.2
OPTIMIZATION STUDY OF ULMUS PUMILLA BIOMASS FRACTIONATION BY STEAM EXPLOSION FOR BIOPRODUCTS PRODUCTION
Ana Isabel SUSMOZAS, CIEMAT, Energy Dpt., SPAIN
Co-authors: P. Manzanares, M.J. Negro, R. Iglesias, I. Ballesteros, CIEMAT, Madrid, Spain

5CO.10.3
Invited

5CO.10.4
CONTINUOUS PLANT-SCALE FERMENTATIVE PRODUCTION OF BUTANOL AND BUTYRIC ACID WITH IN-SITU PRODUCT RECOVERY
Henri STEINWEG, Karlsruhe institute of technology (KIT), IKFT Dpt., GERMANY
Co-authors: N. Dahmen, Institute of catalysis researchInstitute of Catalysis Research and Technology (IKFT), Karlsruhe Inst, Eggenstein-Leopoldshafen, Germany; S. Markussen, Biotechnology and Nanomedicine, Sintef Industry, Trondheim, Norway; B. Wittgens, Process Technology, Sintef Industry, Trondheim, Norway

16:15 - 17:15
ORAL SESSION 2CO.11
Bioeconomy strategies in Europe

CHAIRPERSONS:
Robert M'BAREK, European Commission JRC, EU

2CO.11.1
MAPPING THE DEPLOYMENT OF REGIONA BIOECONOMIES IN EUROPE
Javier SANCHEZ LOPEZ, European Commisssion, JRC, ITALY
Co-authors: S. Haarich, Spatial Foresight GmbH, Luxembourg, Luxembourg; S. Kirchmayr, Österreichisches Institut für Raumplanung (ÖIR) GmbH, Vienna, Austria; M.T. Borzacchiello, M. Avraamides, European Commisssion, JRC, Ispra, Italy

2CO.11.2
SCENARIOS OF A GHG-COST-OPTIMAL ENERGETIC BIOMASS USE IN THE GERMAN ENERGY TRANSITION UNTIL 2030 AND 2050
Kathleen MEISEL, DBFZ-Deutsches Biomasseforschungszentrum gemeinnützige, Bioenergy Systems Dpt., GERMANY
Co-authors: K. Mesel, C. Schmid, M. Dotzauer, N. Szarka, S. Majer, DBFZ-Deutsches Biomasseforschungszentrum gemeinnützige, Leipzig, Germany; M. Jordan, D. Thrän, Helmholtz-Centre for Environmental Researchironmental research, Leipzig, Germany

2CO.11.3
THE SUSTAINABILITY DETERMINANTS OF A NATIONAL TRANSITION TOWARDS LOW FOSSIL CARBON USE: RESULTSO THE 5-Y CAMBIOSCOP PROJECT FOR FRANCE
Lorie HAMELIN, University of Toulouse, Toulouse Biotechnology Institute, FRANCE
Co-author: L. Hameln, University of Toulouse, France

2CO.11.4
BRIDGING THE GAP BETWEEN POLICY AND SCIENCE TO ENABLE THE NET ZERO BENEFITS OF THE BIOECONOMY
Joanna SPARKS, Aston University, UNITED KINGDOM
Co-authors: M Röder, P Thornley, Aston University, Birmingham, United Kingdom

16:15 - 17:15
ORAL SESSION 4CO.12
Mechanical and Thermochemical Densification

CHAIRPERSONS:
Capucine DUPONT, The Delft Institute for Water Education, THE NETHERLANDS
Oyvind SKREIBERG, SINTEF Energy Research, NORWAY

4CO.12.1
DENSIFICATION OF CHAR FROM THE GASIFICATION OF WOODY BIOMASS TO HIGH QUALITY PELLETS FOR FURTHER ENERGETIC USE
Claudia KIRSTEN, DBFZ-German Biomass Research Centre, Bioenergy-Systems, GERMANY
Co-author: A. Pollex, DBFZ-German Biomass Research Centre, Leipzig, Germany

4CO.12.2
BENCH-SCALE PNEUMATIC CONVEYING TESTS OF PYROLYZED WOOD POWDER
Richard DEUTSCH, BEST - Bioenergy and Sustainable Technologies, AUSTRIA
Co-authors: N. Kienzl, BEST Bioenergy and Sustainable Technologies GmbH, Graz, Austria; C. Strasser, BEST Bioenergy and Sustainable Technologies GmbH, Wieselburg, Austria; F. Splittgerber, E.S.C.H. GmbH, Unterwellenborn, Germany

4CO.12.3
MASS AND ENERGY BALANCE OF A CONTINUOUS BIOMASS CARBONIZATION SYSTEM ASSOCIATED WITH A RANKINE POWER CYCLE
Waldir Antonio BIZZO, University of Campinas, School of Mechanical Engineering, BRAZIL
Co-author: L.A. Moya, University of Campinas, Brazil

4CO.12.4
NUMERICAL INVESTIGATION OF PRESSURE DISTRIBUTION AND PARTICLE ARRANGEMENT DURING AGGLOMERATION WITH AN INDUSTRIAL STAMP BRIQUETTING MACHINE
Roman ADAM, DBFZ Deutsches Biomassefoschungszentrum, Thermo-chemical Conversion Departement, GERMANY
Co-authors: P. Khatri, DBFZ Deutsches BiomassefoschungszentrumDBFZ Deutsches Biomassefoschungszentrum, Leipzig, Germany; T. Zeng, V. Lenz, DBFZ Deutsches Biomassefoschungszentrum, Leipzig, Germany; H. Kruggel-Emden, TU Berlin, Germany

17:15 - 17:30 **Break**

17:30 - 18:30
ORAL SESSION 5CO.13
Synthetic fuels from biomass and hydrogen

CHAIRPERSONS:
Patrik KLINTBOM, RISE, SWEDEN
Guillaume BOISSONNET, Commissariat à l'Energie Atomique et aux Energies Alternatives, FRANCE

5CO.13.1
DECARBONISING INTERNATIONAL AVIATION THROUGH SUSTAINABLE AVIATION FUEL PRODUCTION WITH CARBON CAPTURE AND STORAGE
Alberto ALMENA-RUIZ, EBRI, UNITED KINGDOM
Co-authors: K. Chong, M. Röder, P. Thornley, EBRI, Birmingham, United Kingdom

5CO.13.2
BLENDS OF BIO-OIL AND BIOGAS FOR HIGH-PURITY H2 PRODUCTION BY SORPTION ENHANCED STEAM REFORMING (SESR)
Alma CAPA, INCAR-CSIC, SPAIN
Co-authors: S. Rodríguez, R. García, F. Rubiera, C. Pevida, M.V. Gil, INCAR-CSIC, Oviedo, Spain; D. Chen, NTNU, Trondheim, Norway

5CO.13.3
POWER AND BIOMASS TO LIQUID - UNLOCKING THE FULL POTENTIAL OF BIOMASS FOR SUSTAINABLE AVIATION FUEL PRODUCTION
Felix HABERMEYER, German Aerospace Center, Alternative Fuels Dpt., GERMANY
Co-authors: F. Habermayer, J. Weyand, S. Maier, R.-U. Dietrich, German Aerospace Center, Stuttgart, Germany; E. Kurkela, VTT, Helsinki, Finland

5CO.13.4
TO-SYN-FUEL - THE DEMONSTRATION OF WASTE BIOMASS TO SYNTHETIC FUELS AND GREEN HYDROGEN
Robert DASCHNER, Fraunhofer-Institut UMSICHT, Energy Management Dpt., GERMANY
Co-authors: S. Capaccioli, A. Grassi, ETA-Florence Renewable Energies, Florence, Italy; A. Hornung, Fraunhofer UMSICHT, Sulzbach-Rosenberg, Germany; M. Ouadi, H. Jahangiri,, University of Birmingham, United Kingdom; D. Lieftink, HyGear Technology and Services BV, Arnhem, The Netherlands; M. Artmann, Martech, Michelsneukirchen, Germany; A. Contin, S. Righi, D. Marazza, V. Lama, S. Macrelli, Università di Bologna, Ravenna, Italy; M. Langley, C. Tuck, WRG, Exeter, United Kingdom; A. Claret, Leitat, Terrassa, Spain; I. Rapone, ENI, Novara, Italy; L. Graute, VTS, Schwedt/Oder, Germany

17:30 - 18:30
ORAL SESSION 2CO.14
Strategies to develop (bio)fuels and materials

CHAIRPERSONS:
Martin JUNGINGER, Utrecht University, THE NETHERLANDS
Oliver HURTIG, European Commission, JRC, ITALY

2CO.14.1
COMPARATIVE ASSESSMENT OF THE PROSPECTS FOR DIFFERENT BIOFUELS AND ELECTROFUELS FROM FOREST RESIDUES - STRATEGIES FOR DROP-IN AND SINGLE MOLECULE FUELS ARE BOTH INTERESTING OPTIONS
Julia HANSSON, IVL Swedish Environmental Research Institute, Climate & Sustainable Cities, SWEDEN
Co-authors: E. Furusjö, RISE Research Institutes of Swedendish Environmental Research Institute, Stockholm, Sweden; P. Klintbom, RISE Research Institutes of Swedendish Environmental Research Institute, Göteborg, Sweden; T. Lönnqvist, IVL Swedish Environmental Research Institute, Stockholm, Sweden

2CO.14.2
ESTABLISHING ETHANOL INDUSTRIES IN DEVELOPING COUNTRIES - OPPORTUNITIES AND CHALLENGES TO ACHIEVE INCLUSIVE AND SUSTAINABLE INDUSTRIAL DEVELOPMENT
Rainer JANSSEN, WIP Renewable Energies, GERMANY
Co-authors: D. Rutz, B. Di Costanzo, WIP Renewable Energies, Munich, Germany; D. Bacovsky, D. Matschegg, BEST - Bioenergy and Sustainable Technologies GmbH, Wieselburg, Austria

2CO.14.3
RENEWABLE GASES: CURRENT STATE AND PERSPECTIVES OF BIOGAS, BIOMETHANE, AND RENEWABLE HYDROGEN
Uwe R. FRITSCHE, IINAS, Scientific Director, GERMANY
Co-authors: C. Hennig, S. Majer, DBFZ, Leipzig, Germany; J. Liebetrau, Rytek, Baden Baden, Germany; R. Monaghan, NUI, Galway, Ireland

2CO.14.4

PROVIDING INSIGHTS INTO THE MARKETS FOR BIO-BASED MATERIALS WITH BIOMAT: HISTORICAL DEVELOPMENTS, FUTURE PROJECTIONS AND POLICY IMPACT ASSESSMENT

Viktoriya STURM, Thünen Institute of Market Analysis, GERMANY
Co-authors: M. van Leeuwen, A. Gonzalez-Martinez, D. Verhoog, Wageningen Economic Research, The Hague, The Netherlands; N. Hark, N. de Beus, nova-Institut für politische und ökologische Innovation GmbH, Hürth, Germany

09:00 - 10:00
ORAL SESSION 4DO.1
Biogas feedstocks and enhanced biogas production

Different biogas feedstocks are evaluated and the processes optimised. In addition, approaches to enhance biogas production are investigated.

CHAIRPERSONS:
Jens Bo HOLM-NIELSEN, Aalborg University, DENMARK
Ioana IONEL, Politehnica University of Timisoara, ROMANIA

4DO.1.1
DEMAND-DRIVEN BIOGAS PRODUCTION IN TWO-STAGE ANAEROBIC SYSTEMS. MICROBIOLOGICAL PROCESSES AND THEIR ANALYSIS
Ievgeniia MOROZOVA, Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB, GERMANY
Co-authors: M. Mohr, Y. Vainshtein, K. Sohn, Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB, Stuttgart, Germany; A.L. Hacker, CureVac, Riederich, Germany

4DO.1.2
A COMPREHENSIVE EVALUATION OF CHEESE WHEY FOR BIOGAS PRODUCTION
Juan Luis RAMOS-SUÁREZ, Universidad de La Laguna, Departamento de Ingeniería Agraria, Náutica, Civil y Marítima, SPAIN
Co-authors: S.J. Álvarez-Méndez, A. Ritter Rodríguez, J. Mata González, A. Camacho Pérez, Universidad de La Laguna, San Cristóbal de La Laguna, Spain

4DO.1.3
BIOMASS-BASED ADSORBENTS FOR BIOGAS UPGRADING
Covadonga PEVIDA, Instituto de Ciencia y Tecnología del Carbono, INCAR-CSIC, SPAIN
Co-authors: I. Durán, F. Rubiera, Instituto de Ciencia y Tecnología del Carbono, INCAR-CSIC, Oviedo, Spain

4DO.1.4
Invited

09:00 - 10:00
ORAL SESSION 2DO.2
Environmental impacts of biomass production and advanced biofuels

Environmental impacts of biomass production and advanced biofuels

CHAIRPERSONS:
Uwe R. FRITSCHE, IINAS, GERMANY
Lorie HAMELIN, University of Toulouse, FRANCE

2DO.2.1
Invited

2DO.2.2
BIOMETHANE LOSSES IN MODERN BIOGAS PLANTS: THE EFFECT ON GREENHOUSE GAS EMISSIONS ACCOUNTING
Oliver HURTIG, European Commission, JRC, ITALY
Co-authors: M. Buffi, M. Canova, N. Scarlat, European Commission, JRC, Ispra, Italy

2DO.2.3
COMPREHENSIVE LCA OF ADVANCED LIGNOCELLULOSIC BIOFUELS
Katja OEHMICHEN, DBFZ-German Biomass Research Centre, Bioenergy Systems Dpt., GERMANY
Co-authors: S. Majer, N. Dögnitz, DBFZ-German Biomass Research Centre, Leipzig, Germany; D. Thrän, UFZ - Helmholtz Centre for Environmental Research, Leipzig, Germany

2DO.2.4
PLASTIC IMPURITIES IN BIOWASTES AND THEIR IMPACT ON THE ENVIRONMENT
Poroshat HADDADI, Westfälische Hochschule(university of applied sceince), GERMANY
Co-authors: J. P. Weil, J. Palm, L. Baberg, A. Tekle-Röttering, R. Holzhauer, Westfälische Hochschule university of applied sciences, Gelsenkirchen, Germany

09:00 - 10:00
ORAL SESSION 5DO.3
Hydrothermal Liquefaction of Different Feedstocks and Products

HTL and upgrading

CHAIRPERSONS:
Thomas Helmer PEDERSEN, Aalborg University, DENMARK

5DO.3.1
CAN PLASTIC WASTE BE USED TO IMPROVE BIO-CRUDE OIL FROM THE HYDROTHERMAL LIQUEFACTION OF TECHNICAL LIGNIN?
Sanette MARX, North-West University, Centre of Excellence in Carbon-based Fuels, SOUTH AFRICA
Co-authors: R.J. Venter, North-West U niversity, Potchefstroom, South Africa; E Visser, P Swanepoel, North-West University, Potchefstroom, South Africa

5DO.3.2
HYDROTHERMAL LIQUEFACTION (HTL) OF BLACK LIQUOR
Maximilian WÖRNER, Karlsruhe Institute of Technology, GERMANY
Co-authors: U. Hornung, N. Dahmen, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany

5DO.3.3
INFLUENCE OF LIPID, PROTEIN, CELLULOSE INTERACTION ON THE EVOLUTION OF N-HETEROATOM COMPOUNDS DURING HYDROTHERMAL LIQUEFACTION
Joscha ZIMMERMANN, Karlsruhe Institute of Technolology, Institute of Catalysis Research and Technology, GERMANY
Co-authors: K. Raffelt, N. Dahmen, Karlsruhe Institute of Technolology, Eggenstein-Leopoldshafen, Germany

5DO.3.4
DEVELOPMENT OF OXYGEN ASSISTED HYDROTHERMAL CARBONIZATION (OXI-HTC) FOR AUTOTHERMAL TREATMENT OF ACTIVATED SLUDGE SSURRIES AND LIGNOCELLULOSIC BIOMASS
Aidan SMITH, Aarhus University, Energy Research Institute, DENMARK
Co-author: S Ravn-Andersen, Aarhus University, Denmark

10:00 - 10:15 **Break**

10:15 - 11:30
PLENARY SESSION DP.1
Different aspects of the transition to a further decarbonized economy

This session covers several aspects of the transition towards a further decarbonised economy. First a presentation is given on the EU policy options that may follow from the 'Fit to 55' package to reduced GHG emissions further in the transport sector. The next presentation is about how future LCA studies need to facilitate our understanding of where biobased products have a clear advantage over electricity based products and can sustainably complement a largely defossilised economy. Our last presentation is looking back towards the trends in bioenergy development in all IEA countries between 2005 and 2019.

CHAIRPERSONS:
Wolter ELBERSEN, Wageningen Research, THE NETHERLANDS
Guido REINHARDT, IFEU-Institut Heidelberg, GERMANY

DP.1.1
Keynote presentation
FOUR QUESTIONS TO CONSIDER IN LCA STUDIES TO IDENTIFY BIO-BASED PRODUCTS THAT ARE COMPATIBLE WITH A DEFOSSILISED ECONOMY
Heiko KELLER, IFEU - Institute for Energy and Environmental Research Heidelberg, GERMANY

DP.1.2
WHAT IS NEEDED TO CONSIDER WHEN MONITORING SUSTAINABILITY IN BIOECONOMY IN THE GLOBAL SOUTH.
Rocio DIAZ-CHAVEZ, Stockholm Environment Institute, Africa Centre, KENYA
Co-author: I. Virgin, Stockholm Environment Institute, Sweden

DP.1.3
TRENDS OF BIOENERGY IN THE MEMBER COUNTRIES OF IEA BIOENERGY
Luc PELKMANS, IEA Bioenergy, BELGIUM

11:30 - 11:45 **Break**

11:45 - 12:45
ORAL SESSION 4DO.4
Adaptation and Optimisation of biogas systems

Systems integration of biogas plants and adaptation of biogas technology.

CHAIRPERSONS:
Bernhard DROSG, BEST - Bioenergy and Sustainable Technologies, AUSTRIA
Marco RAVINA, Turin Polytechnic, ITALY

4DO.4.1
THERMAL EVALUATION OF HEAT LOSSES IN FARM SCALE ANAEROBIC DIGESTION UNITS
Marco AVILA, INSAVALOR SA, FRANCE
Co-authors: C. Robles Rodriguez, A. Ahmadi, TBI, Toulouse, France

4DO.4.2
COOLING PIG MANURE BY SURPLUS HEAT FROM A BIOGAS FUELED CHP - RESULTS ND PERSPECTIVES
Kurt HJORT-GREGERSEN, Danish Technological Institute, Environment Technology Dpt., DENMARK

4DO.4.3
THE ADAPTATION OF OPERATING BIOGAS PLANTS TO THE ENHANCED USE OF AGRICULTURAL RESIDUES BASED ON A CASE STUDY IN GERMANY
Norbert GRÖSCH, Institute of New Energy Systems, Industrial Energy Systems Dpt., GERMANY
Co-authors: S. Wageneder, W. Zörner, C. Trinkl, Institute of New Energy Systems, Ingolstadt, Germany

4DO.4.4
METHANE PRODUCTION FROM SARGASSUM MUTICUM FOLLOWING THE REMOVAL OF POLYPHENOLIC CONTENT BY POLYVINYLPOLYPYRROLIDONE
Supattra MANEEIN, University of Greenwich, School of Science, UNITED KINGDOM
Co-authors: J.J. Milledge, B.V. Nielsen, University of Greenwich, Chatham, United Kingdom

11:45 - 12:45
ORAL SESSION 2DO.5
Environmental impacts of commercial bioenergy integration

Environmental impacts of commercial bioenergy integration

CHAIRPERSONS:
Mirjam ROEDER, Aston University, UNITED KINGDOM
Sylvain MARSAC, ARVALIS - Institut du Végétal, FRANCE

2DO.5.1
ENVIRONMENTAL IMPACTS OF RENEWABLE HYDROGEN ADDITION TO A BIOMASS-BASED FUEL PRODUCTION PROCESS
Julia WEYAND, DLR e.V., GERMANY
Co-authors: F. Habermeyer, R.-U. Dietrich, DLR, Stuttgart, Germany

2DO.5.2
ENVIRONMENTAL AND SOCIAL IMPACTS OF BIOFUEL PRODUCTION USING WASTE WOOD INTEGRATED IN A LARGE-SCALE STEEL MILL
Maria HINGSAMER, Joanneum Research Forschungsgesellschaft, AUSTRIA
Co-authors: M. Brenner-Fliesser, M. Hadler, Universität Graz, Austria; I. Kaltenegger, Joanneum Research Forschungsgesellschaft, Graz, Austria; W. Van der Stricht, S. van de Casteele, ArcelorMittal, Gent, Belgium

2DO.5.3
IMPACTS OF INCREASED WOOD PELLET DEMAND ON CARBON STOCKS IN THE SOUTHEASTERN US
Co-authors: A. Duden, P.A. Verweij, M. Junginger, F. van der Hilst, Utrecht University, The Netherlands; A.P.C. Faaij, Rijksuniversiteit Groningen, Groningen, The Netherlands; R.C. Abt, North Carolina State University, Raleigh, Usa

2DO.5.4
EVALUATING THE ENVIRONMENTAL SUSTAINABILITYOF A COMMERCIAL TCR/PSA/HDO INTEGRATED SYSTEM FOR THE CONVERSION OF MUNICIPAL SEWAGE SLUDGE INTO VALUE-ADDED PRODUCTS IN THE BIOENERGY SECTOR
Virginia LAMA, Alma Mater Studiorum - University of Bologna, Interdepartmental Research Centre for Environmental Sciences - CIRSA, ITALY
Co-authors: S. Macrelli, D. Marazza, A. Contin, S. Righi, Alma Mater Studiorum - University of Bologna, Ravenna, Italy

11:45 - 12:45
ORAL SESSION 5DO.6
Catalytic Hydrothermal Liquefaction and Modelling

Modelling and upscaling

CHAIRPERSONS:
Daniele CASTELLO, Aalborg University, DENMARK
Judit SANDQUIST, SINTEF Energy Research, NORWAY

5DO.6.1
Invited

5DO.6.2
CATALYTIC HYDROTREATING OF BIO-CRUDE OBTAINED FROM HYDROTHERMAL LIQUEFACTION OF BIOPULP: EFFECT OF AQUEOUS PHASE RECIRCULATION ON THE FINAL UPGRADED OIL
Komeil KOHANSAL, Aalborg University, Energy Technology Dpt., DENMARK
Co-authors: L.A. Rosendahl, T.H. Pedersen, Aalborg University, Denmark

5DO.6.3
DEVELOPMENT OF A KINETIC MODEL FOR HTL CONVERSION OF WASTE BIOMASS
Anne ROUBAUD, CEA Grenoble, DRT-LITEN/DTCH/SCPC/LRP, FRANCE
Co-authors: G. Haarlemmer, M. Briand, CEA Grenoble, France; P. Fongarland, CP2M, CPE, Université Claude Bernard, Lyon, France

5DO.6.4
MODELING OF SEWAGE SLUDGE VALORIZATION IN INTEGRATED GREEN FUELS PLATFORM BASED ON HTL WITH BECCS/U
Eliana LOZANO, Aalborg University, Energy Technology Dpt., DENMARK
Co-author: T. Pedersen, Aalborg University, Denmark

12:45 - 13:45 Break

13:45 - 14:45
ORAL SESSION 4DO.7
Towards Advanced Biogas Systems

CHAIRPERSONS:
Dominik RUTZ, WIP Renewable Energies, GERMANY
Tormod BRISEID, NIBIO - Norwegian Institute of Bioeconomy Research, NORWAY

4DO.7.1
Invited

4DO.7.2
CHARACTERIZING THE ENERGY PERFORMANCE OF HEMP STRAW ANAEROBIC DIGESTION AT PILOT SCALE
Carla ASQUER, Sardegna Ricerche, Biomass and Biofuel Laboratory, ITALY
Co-authors: M. Canu, G. Carboni, Agris Sardegna, Cagliari, Italy

4DO.7.3
EFFECT OF ULTRASONICATION ON BIOGAS PRODUCTION FROM THERMOPHILIC ANAEROBIC DIGESTION OF FOOD WASTE
Bikash Ranjan TIWARI, INRS, eau terre environnement, CANADA
Co-author: S.K. Brar, York University, Toronto, Canada

4DO.7.4
EUBCE Student Awardee Presentation
ENHANCED METHANE PRODUCTION BY THE CONDUCTIVE CARBON-NANOTUBE STRUCTURES DURING ANAEROBIC DIGESTION OF THE LEACHATE FROM FOOD WASTES
Seungyeob HAN, Korea Advanced Institute of Science and Technology, Civil and Environmental Dpt., SOUTH KOREA

13:45 - 14:45
ORAL SESSION 2DO.8
Decarbonisation options: Biochar, BECCS and Geopolitics

This session covers three diverse topics of clear relevance for understanding best decarbonisation options. Firstly it looks at the option to increase the carbon capture of advanced biofuel chains by including slow pyrolysis and valorise the biochar as soil improver and carbon storage solution. Secondly, the BECCS potential for Germany is explored taking a diversity of BECC options into account. Lastly a presentation discusses how geopolitical developments and the EU regional bioenergy regulation (RED II) are likely to act as barriers that directly reduce Europeâ€™s access bioenergy and potential to mitigate GHG emissions towards 2050.

CHAIRPERSONS:
Calliope PANOUTSOU, Centre for Renewable Energy Sources (CRES), GREECE
Berien ELBERSEN, Alterra, THE NETHERLANDS

2DO.8.1
ENVIRONMENTAL ASSESSMENT OF AN INTEGRATED BIOMASS TO LIQUID FUELS VALUE CHAIN INCLUDING BIOCHAR AS CARBON CAPTURE AND STORAGE SOLUTION
Matteo PRUSSI, Politecnico di Torino, DENERG, ITALY
Co-authors: M. Buffi, O. Hurtig, N. Scarlat, EC-JRC, Ispra, Italy; A.M. Rizzo, G. Talluri, RE-CORD, Firenze, Italy; D. Chiaramonti, Politecnico di Torino, Italy

2DO.8.2
ENHANCING MITIGATION POTENTIAL OF BIOENERGY IN GERMANY: AN ASSESSMENT OF BECCS MODEL PLANTS
Malgorzata BORCHERS, Helmholtz Centre for Environmental Research GmbH - UFZ, GERMANY
Co-authors: D. Thrän, J. Förster, Helmholtz Centre for Environmental Research GmbH - UFZ, Leipzig, Germany; N. Dahmen, Y. Chi, Karlsruhe Institute of Technology - KIT, Eggenstein-Leopoldshafen, Germany; J. Wu, N. Mengis, GEOMAR Helmholtz Centre for Ocean Research Kiel, Kiel, Germany

2DO.8.3
EUROPEAN BIOENERGY IMPORTS TO 2050: AN ASSESSMENT OF GEOPOLITICAL AND REGULATORY CONSTRAINTS ONTO EUROPE'S ACCESS TO INTERREGIONAL BIOENERGY IMPORTS AND ATTACHED GHG EMISSIONS
Steven MANDLEY, Utrecht University, Energy & Resources Dpt., THE NETHERLANDS
Co-authors: V Daioglou, B Wicke, D van Vuuren, M Junginger, Utrecht University, The Netherlands

2DO.8.4
PROPOSED CHANGES TO THE RENEWABLE ENERGY DIRECTIVE AND THE NEW REFUEL EU PROPOSAL: GHG SAVINGS AND COSTS IN 2030
Adrian OCONNELL, International Council on Clean Transportation, GERMANY
Co-authors: C. Baldino, International Council on Clean Transportation, Berlin, Germany; S. Searle, International Council on Clean Transportation, Washington DC, Usa; A. Christensen, GAMS, Washington DC, Usa

13:45 - 14:45
ORAL SESSION 5DO.9
Hydrothermal Liquefaction Process Development and Upscaling

Hydrothermal liquefaction

CHAIRPERSONS:
Frederic VOGEL, PSI - Paul Scherrer Institut, SWITZERLAND
Lasse ROSENDAHL, Aalborg University, DENMARK

5DO.9.1
SMALL IS BEAUTIFUL: A MODULAR APPROACH TO HYDROTHERMAL LIQUEFACTION INCREASES EFFICIENCY AND REDUCES COSTS TO MEET THE CHALLENGE OF DISTRIBUTED BIOMASS RESOURCES
Ib JOHANNSEN, Bio2oil ivs, DENMARK
Co-authors: J. Billing, Circlia Nordic, Houston, Usa; S.H. Petersen, J.E. Pedersen, Circlia Nordic, Aarhus, Denmark

5DO.9.2
Invited

5DO.9.3
DEVELOPMENT OF CONTINUOUS HYDROTHERMAL LIQUEFACTION PROCESS FOR DIFFERENT FEEDSTOCK
Vaibhav AGRAWAL, Tampere University, Faculty of Engineering and Natural Sciences, FINLAND
Co-authors: B. Arjmand, T. Joronen, J. Konttinen, Tampere University, Finland

5DO.9.4
150X UPSCALING OF BATCH HYDROTHERMAL LIQUEFACTION OF DIGESTED WASTEWATER SLUDGE WITH WATER AND ETHANOL USING AN EXPERIMENTAL DESIGN
Stian Hersvik HEGDAHL, University of Bergen, Chemistry Dpt., NORWAY
Co-authors: C. Løhre, S. Ghoreishi, J. L. Molnes, T. Barth, University of Bergen, Norway

14:45 - 15:00 **Break**

17:00 - 18:00
Closing Session

Monday, 09 May 2022
Visual Presentations

15:00 - 16:00
VISUAL PRESENTATIONS 2AV.1
This Session will Focus on Sustainability Assessment of Biomass and Bioecnomy

The session focuses on methods and assessments of biomass for bioenergy and bioeconomy with global views.

2AV.1.4
MULTI-CRITERIA FRAMEWORK TO GUIDE THE DESIGN OF REGIONAL BIOBASED VALUE CHAINS AND WEBS CONSIDERING THE CONTEXT
Ricardo VARGAS CARPINTERO, University of Hohenheim, Biobased Resources in the Bioeconomy, GERMANY
Co-author: I. Lewandowski, University of Hohenheim, Stuttgart, Germany

2AV.1.8
DOMESTIC ACCIDENTS IN COOKING AS A REFLECTION OF TRANSVERSALITY AMONG GENDER, JUSTICE, AND ENERGY POVERTY
Sigrid NEIVA, Universidade de São Paulo, BRAZIL
Co-authors: D. Amaral, A. Silva, M. Anater, C. Bermann, S. Coelho, Universidade de São Paulo, São Paulo, Brazil

2AV.1.9
SUSTAINABILITY POTENTIAL ASSESSMENT OF BIOETHANOL AND BIODIESEL SIDE-STREAMS INNOVATIVE VALORISATION APPROACHES THROUGH A BATTELLE METHOD INSPIRED MULTICRITERIA DECISION ANALYSIS FRAMEWORK
Marta MACIAS ARAGONÉS, Technological Corporation of Andalusia (CTA), SPAIN
Co-authors: P. Ondrejícková, ENVIRAL a.s., Leopoldov, Slovak Republic; E. Amat Guasch, Fundación Tecnalia Research & Innovation, San Sebastián, Spain; F. Arroyo Torralvo, University of Seville, Seville, Spain

2AV.1.11
PROSPECTS FOR PULP TO FUEL - THE ENVIRONMENTAL AND SOCIAL SUSTAINABILITY OF BIODIESEL PRODUCTION BASED ON RESIDUES FROM THE PULP INDUSTRY
Nilay ELGINOZ KANAT, IVL Swedish Environmental Research Institute, SWEDEN
Co-authors: S. Poulikidou, J. Hansson, IVL Swedish Environmental Research Institute, Gothenburg, Sweden; J. Granacher, École Polytechnique Fédérale de Lausanne (EPFL), Sion, Switzerland

2AV.1.12
CLEAN AIR TEST-ZONE: QUANTIFYING THE EFFECTS OF LOW-EMISSION MEASURES FOR WOOD STOVES IN REAL LIFE
Lars SCHWARZER, Danish Technological Institute, Energy and Climate Dpt., DENMARK
Co-authors: T.B. Ottosen, R.L. Hvidberg, M. Køcks, M.G. Warming-Jespersen, j.A. Hansen, Danish Technological Institute, Aarhus, Denmark

2AV.1.13
THE ENVIRONMENTAL IMPACT OF DEVELOPERS IN PRESERVATION AND ENERGY CONSERVATION: THE CASE OF MALTA
Firend Alan RASCH, AUM, Management, UNITED KINGDOM
Co-author: R. Ebaid, AUM, Bormla, Malta

16:15 - 17:15
VISUAL PRESENTATIONS 2AV.3
Environmental Impacts of Biomass, Bioenergy and Value Added Products

2AV.3.4
ENVIRONMENTAL AND ECONOMIC SUSTAINABILITY ASSESSMENT OF HEAT AND ELECTRICITY GENERATION FROM ENERGY CROPS IN TURKEY
Gulizar BALCIOGLU, The University of Manchester, Chemical Engineering Dpt., UNITED KINGDOM
Co-authors: H. Jeswani, A. Azapagic, The University of Manchester, United Kingdom

16:15 - 17:15
VISUAL PRESENTATIONS 1AV.4
Producing Dedicated Biomass to Energy

1AV.4.1
INDUSTRIAL HEMP BIOMASS YIELD ON SHALLOW STONY SOIL IN SOUTHERN GERMANY
Moritz VON COSSEL, University of Hohenheim 340b, Biobased Resources in the Bioeconomy (340b), GERMANY
Co-authors: B. Greiner, I. Lewandowski, University of Hohenheim, Institute of Crop Science, Biobased Resources in the Bioeconomy (340b), Stuttgart, Germany; D. Scordia, S.L. Cosentino, Dipartimento di Agricoltura, Alimentazione e Ambiente (Di3A), University of Catania, Catania, Italy

1AV.4.4
WATER DEFICIT EFFECT ON LONG-TERM MISCANTHUS YIELDS IN DRY MEDITERRANEAN REGION
Efthymia ALEXOPOULOU, CRES - Center for Renewable Energy Sources and Saving, Biomass Dpt., GREECE
Co-authors: Konstantin Iordanoglou, CRES, Biomass Department, PIKERMI ATTIKIS, Greece; Giorgios Tsipas, Ioanna Papamichael, CRES - Center for Renewable Energy Sources and Saving, Pikermi Attikis, Greece; Eleni G Papazoglou, Agricultural University of Athens - AUA, Votanikos, Greece

1AV.4.11
GROWING CAMELINA AS CASH COVER CROP N GREECE
Efthymia ALEXOPOULOU, CRES - Center for Renewable Energy Sources and Saving, Biomass Dpt., GREECE
Co-authors: F Zanetti, UNIBO - University of Bologna, Italy; K Kempapidis, BIOS - Agrosystems, Thessaloniki, Greece; Y. Herreras Yambanis, CCE - Camelina Company Espana, Madrid, Spain

17:30 - 18:30
VISUAL PRESENTATIONS 2AV.5
Decarbonisation Options

Different Perspectives on GHG Mitigation and Carbon Capture Options and Different Perspectives on how to Evaluate the most Sustainable Solutions.

2AV.5.2
BIOENERGY SYSTEMS WITH OR WITHOUT CARBON DIOXIDE REMOVAL? A COMPARATIVE LIFE CYCLE ASSESSMENT
Lisa ZAKRISSON, Swedish University of Agricultural Sciences (SLU), SWEDEN
Co-authors: E.S. Azzi, KTH Royal Institute of Technology, Stockholm, Sweden; C. Sundberg, Swedish university of agricultural sciences (SLU), Uppsala, Sweden

2AV.5.9
EUBCE Student Awardee Presentation
HOW IMPORTANT IS THE ROOT IN THE ROLE OF CARBON SINK IN SHORT ROTATION COPPICE PLANTATIONS?
Alicia FUERTES SÁNCHEZ, INIA-CSIC, SPAIN
Co-authors: A. Fuertes, H. Sixto, I. Gonzalez, N. Oliveira, INIA-CSIC, Madrid, Spain; C. Pérez-Cruzado, R. Rodríguez-Soalleiro, INIA-CSIC, Lugo, Spain

2AV.5.14
WOOD FROM SHORT ROTATION COPPICES AND AGROFORESTRY FOR ENERGY: LONG TERM YIELD PERFORMANCE, CARBON SEQUESTRATION AND COST OF MITIGATING CO2 EMISSIONS
Ralf PECENKA, Leibniz Institute for Agricultural Engineering and Bioeconomy, Post Harvest Dpt., GERMANY
Co-authors: S. Germer, H. Lenz, V. Scholz, Leibniz Institute for Agricultural Engineering and Bioeconomy, Potsdam, Germany

17:30 - 18:30
VISUAL PRESENTATIONS 6AV.6
Biobased Chemicals and Materials

6AV.6.2
EXTRACTION AND CHARACTERISATION OF NANOCRYSTALLINE CELLULOSE EXTRACTED FROM AGRICULTURAL BIOMASS WASTES VIA DIFFERENT PRE-TREATMENTS AND HYDROLYSING SOLVENTS
Fitra Dhiafallah AKBAR, Swinburne University of Technology, Chemical Engineering Dpt., MALAYSIA
Co-authors: L.W. Chan, J..J. Chew, J. Sunarso, Research Centre for Sustainable Technologies, Faculty of Engineering, Computing and Science, Swinbur, Kuching, Malaysia; D.S. Khaerudini, Research Centre for Physics, National Research and Innovation Agency (BRIN), South Tangerang, Indonesia

6AV.6.4
ADSORPTION OF CHROME VI IN CURTIEMBRES WASTEWATER USING CALCINED EGGSHELL
Magali Camila VIVAS-CUELLAR, Universidad Nacional de Ingenieria, Lima Dpt., PERU
Co-authors: E.A. Collado Dominguez, Universidad Nacional de Ingenieria, Lima, Peru; A.D. Arias Durand, R. Guillén De La Cruz, Universidad Nacional Agraria La Molina, Lima, Peru; O.G. Marin-Flores, Washington State University, Pullman, Usa

6AV.6.5
COMPARISON OF PRODUCED HYDROCHAR FROM MICROWAVE-BASED SYNTHESIS AND CONVENTIONAL METHOD
Sepideh SOROUSH, Gent University, SOUTH KOREA
Co-authors: F. Ronsse, Gent University, Belgium; D. Wu, P.M Heynderickx, Gent University Global Campus, Incheon, South Korea; K. Woong Kim, Gwangju Institute of Science and Technology, Incheon, South Korea

6AV.6.6
SUSTAINABLE BIO-ADSORBENTS FOR CO2 ADSORPTION
Nausika QUEREJETA MONTES, Instituto de Ciencia y Tecnología del Carbono, SPAIN
Co-authors: A. Vega Rodríguez, M.V. Gil Matellanes, F. Rubiera González, C. Pevida García, Instituto de Ciencia y Tecnología del Carbono, Oviedo, Spain

6AV.6.8
BIOACTIVITIES EVALUATION OF THE USELESS PARTS OF ACACIA AURICULIFORMIS EXTRACTS
Suttijit SRIWATCHARAKUL, King Mongkut's Institute of Technology Ladkrabang, Biology Dpt., THAILAND

6AV.6.10
PLANT AVAILABILITY OF PHOSPHATE AND POTASSIUM FROM WOOD ASHES
Hans BACHMAIER, Technology & Support Centre in the Centre of Excellence for Renewable Resources, Solid Biofuels Dpt., GERMANY
Co-authors: D. Kuptz, H. Hartmann, F. Heimler, Technology & Support Centre in the Centre of Excellence for Renewable Resources, Straubing, Germany

6AV.6.14
THERMOCHEMICAL TREATMENT OF AGROINDUSTRIAL RESIDUES THROUGH SLOW PIROLYSIS FOR BIOCHAR PRODUCTION
Jorge García Padilla JORGE, ITCR, Chemistry Dpt., COSTA RICA
Co-authors: J.G.P. Jorge García Padilla, J.Q.K Jaime Quesada Kimzey, ITCR, Cartago, Costa Rica

6AV.6.16
COST-EFFICIENT UPGRADING OF GLYCERINE
Annemie HOUBEN, Desotec, R&D, BELGIUM
Co-authors: D. Reichert, M. Meersseman, Desotec Activated Carbon, Roeselare, Belgium

6AV.6.18
GLUCOSE OXIDATION APPLYING ELECTROCHEMICALLY PRODUCED GREEN OXIDANTS
Roman TSCHENTSCHER, SINTEF, Process Chemistry and Functional Materials, NORWAY
Co-authors: M. Barros, Norwegian University of Life Sciences, Ås, Norway; M. Frøseth, SINTEF, Oslo, Norway; T. Grassl, R. Neuber, CONDIAS, Itzehoe, Germany

Tuesday, 10 May 2022

Visual Presentations

09:00 - 10:00
VISUAL PRESENTATIONS 4BV.1
Improved Biomass Combustion in Terms of Fuel Flexibility, Minimisation of Ash Related Problems, Negative Emission Approaches and Micro-CHPP

This session Covers Novel Biomass Combustion Technologies to Minimise Emissions and to Enlarge Fuel Flexibilty, Negative Emission Strategies, Micro CHP systems as well as Possibilities to Minimise Corrosion

4BV.1.1
AGROBIOMASS COMBUSTION IN STATE-OF-THE-ART RESIDENTIAL BOILERS – RESULTS OF TEST RUNS AT SIX DIFFERENT BOILERS AND ASSESSMENT AGAINST PRESENT ECODESIGN EMISSION LIMITS FOR WOOD FUELS
Thomas BRUNNER, BIOS Bioenergiesysteme, AUSTRIA
Co-authors: P. NOWAK, I. OBERNBERGER, BIOS Bioenergiesysteme, Graz, Austria; E. KARAMPINIS, P. GRAMMELIS, Centre for Research and Technology Hellas / Chemical Process and Energy Resources Institute, Thermi, Greece; P. PALLIS, P. VOURLIOTIS, National Technical University of Athens / School of Mechanical Engineering / Laboratory of Steam Boi, Athens, Greece; S. SALA, B. PALACINO, Fundación CIRCE, Zaragoza, Spain; A. PØDENPHANT, M. WARMING-JESPERSEN, H. STRAUSS, T. NØRGAARD JENSEN, Danish Technological Institute, Aarhus, Denmark

4BV.1.4
QUALITY RANGE OF ENPLUS A1 CERTIFIED WOOD PELLETS AND COMBUSTION BEHAVIOR IN TWO PELLET STOVES
Robert MACK, Technology and Support Centre of Renewable Raw Materials, Solid Biofuels Dpt., GERMANY
Co-authors: C. Schön, Technology and Support Centre of Renewable Raw Materials, Straubing, Germany; H. Hartmann, Technology aTechnology and Support Centre of Renewable Raw Materials, Straubing, Germany

4BV.1.5
EMISSION BEHAVIOUR AND SLAGGING TENDENCIES OF KAOLIN ADDITIVATED PELLETS FROM FEN PALUDICULTURES AND PALUDI-WOOD-BLENDINGS IN A 15 KW PELLET BOILER
Daniel KUPTZ, Technology and Support Centre in the Center of Excellence for Renewable Resources, Solid Biofuels Dpt., GERMANY
Co-authors: C. Kuchler, E. Rist, R. Mack, C. Schön, H. Hartmann, Technology and Support Centre in the Center of Excellence for Renewable Resources, Straubing, Germany; T. Eickenscheidt, University of Applied Sciences Weihenstephan-Triesdorf, Freising, Germany; M. Drösler, University of Applied Sciences Weihenstephan Triesdorf, Freising, Germany

4BV.1.6
STUDY OF COATING OF MATERIALS IN ATMOSPHERES GENERATED IN FLUIDIZED BED BIOMASS COMBUSTION
Alberto BAHILLO, CIEMAT, Energy Dpt., SPAIN
Co-authors: M. M. Gutierrez, A.. Alina, INTA, Madrid, Spain; G. Molina, M.L. Contreras, M. Benito, CIEMAT, Madrid, Spain; A.. Illana, UCM, Madrid, Spain

4BV.1.7
ENERGY EFFICIENT STRAW BOILER WITH LOW NOX EMISSION
Erik Fløjgaard KRISTENSEN, Aarhus University, Electrical and Computer Engineering, DENMARK
Co-author: J.K. Kristensen, Aarhus Universtitet,, Tjele, Denmark

4BV.1.9
A METHODOLOGY TO ESTIMATE BIOMASS COMBUSTION TIME FROM A LIMITED SET OF READILY MEASURABLE PARAMETERS
Mohammed ASHERUDDIN, Indian Institute of Science, INDIA
Co-authors: A.M. Shivapuji, S. Dasappa, Indian Institute of Science, Bangalore, India

4BV.1.10
FIRESIDE CORROSION ANALYSIS IN FLUIDIZED BED COMBUSTION OF BIOMASS.
Maria Luisa CONTRERAS, CIEMAT, Energy Dpt., SPAIN
Co-authors: M. Martínez, M. Benito, A. Bahillo, CIEMAT, Madrid, Spain

4BV.1.12
ORGANIC RANKINE CYCLE AND LARGE HEAT PUMP TO EFFICIENT DRYING PROCESS IN PELLET PRODUCTION AND WOOD-BASED INDUSTRY
Alessandro GUERCIO, Turboden SpA, Sales, ITALY

09:00 - 10:00
VISUAL PRESENTATIONS 6BV.2
Biobased Chemicals and Materials II

6BV.2.1
INVESTIGATION OF ANTIMICROBIAL ACTIVITY FROM SCENEDESMUS SP. AND CHLORELLA SPP. CRUDE EXTRACTS
Wipawee DEJTISAKDI, King Mongkut's Institute of Technology Ladkrabang (KMITL), School of Science, Biology, THAILAND
Co-author: C. Maneeruttanarungroj, KMITL, Bangkok, Thailand

6BV.2.3
EUBCE Student Awardee Presentation
MANUFACTURE AND CHARACTERISATION OF BIOCOMPOSITES REINFORCED WITH OLIVE PITS
Sofía JURADO CONTRERAS, Universidad de Jaén, Chemical, Environmental and Materials Engineering Dpt., SPAIN
Co-authors: M.D. La Rubia, A. Moya, Universidad de Jaén, Spain; J. Castillo-González, F.J. Navas-Martos, Andaltec Technological Centre, Jaén, Spain

6BV.2.4
EFFECT OF THE INFLUENCE OF GLUCOSE AND FRUCTOSE ON LACTIC ACID RECOVERY BY MEMBRANE TECHNOLOGIES.
Mayuki Maryoret Vivian CABRERA GONZALEZ, Technische Universität Wien, Institute of Chemical, Environmental & Bioscience Engineering E166, AUSTRIA
Co-authors: A.el-G. Ahmed, K. Maamo, M. Salem, C. Jordan, M. Harasek, Technische Universität Wien, Vienna, Austria

6BV.2.7
ADSORPTIVE DENITROGENATION OF HIGH NITROGEN CONTENT CRUDE OIL WITH FE/MCM-41
Samira LOTFI, National Research Council Canada / Government of Canada, Energy, Mining, and Environment Research Centre, CANADA
Co-authors: J.C.M. Morais, D.S. Singh, National Research Council Canada / Government of Canada, Ottawa, Canada

6BV.2.8
MEDIUM CHAIN CARBOXYLIC PRODUCTION FOR VALORIZATION OF ORGANIC WASTE AND WASTEWATER
Piotr OLESKOWICZ-POPIEL, Poznan University of Technology, POLAND
Co-authors: F. Brodowski, A. Duber, Z. Dembowska, N. Gutowska, M. Lezyk, Poznan University of Technology, Poland

6BV.2.9
ANALYSIS OF THE INFLUENCE OF THE CHEMICAL TREATMENT USED ON THE PROPERTIES OF POLYMER BIOCOMPOSITES REINFORCED WITH NATURAL FIBERS FROM OLIVE TREE PRUNING WASTE
Sofía JURADO CONTRERAS, Universidad de Jaén, Chemical, Environmental and Materials Engineering Dpt., SPAIN
Co-authors: M.C. Castellón-Morillas, M.D. La Rubia, Universidad de Jaén, Spain; J. Castillo-González, F.J. Navas-Martos, Andaltec Technological Centre, Jaén, Spain

6BV.2.11
GLUCOSE OXIDATION TO GLUCONIC ACID WITH AU-BASED HETEROGENOUS CATALYSTS: OPTIMIZATION AND REACTION KINETICS
Asimina MARIANOU, CPERI/CERTH, GREECE
Co-authors: S. Karakoulia, C. Michailof, A. Lappas, CPERI/CERTH, Thessaloniki, Greece; D. Ipsakis, Technical University of Crete, Greece

6BV.2.13
DEVELOPMENT OF A PROCESS FOR SEPARATING VALUE-ADDED COMPOUNDS FROM PINE WOOD BIO-OIL AS A PRELIMINARY STEP TO A BIOREFINERY
Mireia MORA SANJUAN, Centre de Ciència i Tecnologia Forestal de Catalunya, SPAIN
Co-authors: F. Cespedes Mulero, J. Bartrolí, Universitat Autònoma de Barcelona, Spain; E. Fábregas Martínez, Universitat Autònoma de Barcelona, Bellaterra, Spain; N. Puy Marimón, Centre de Ciència i Tecnologia Forestal de Catalunya, Solsona, Spain

6BV.2.17
STUDY OF A NOVEL BIO-REFINING METHOD FOR OBTAINING 2-FURALDEHYDE, ACETIC ACID AND PULP FROM BIRCH WOOD
Maris PUKE, Latvian State Institute of Wood Chemistry, Biorefinery Laboratory, LATVIA
Co-authors: D. Godina, P. Brazdausks, J. Rizikovs, Latvian State Institute of Wood Chemistry, Riga, Latvia

6BV.2.18
SOLID CATALYST-ASSISTED OXIORGANOSOLV FRACTIONATION OF WHEAT STRAW FOR ENZYMATIC AND MICROBIAL CONVERSION TO NUTRACEUTICALS
Stelios STEFANIDIS, Centre for Research and Technology Hellas, Chemical Process and Energy Resources Institute, GREECE
Co-authors: K.G. Kalogiannis, S.A. Karakoulia, Centre for Research and Technology Hellas, Thessaloniki, Greece; G. Asimakopoulou, A. Karnaouri, E. Topakas, National Technical University of Athens, Greece

11:45 - 12:45
VISUAL PRESENTATIONS 1BV.3
Merging Phytoremediation with Bioenergy

Merging Phytoremediation with Biomass Production for Energy and Biomaterials

1BV.3.3
EVALUATING THE EFFECTS OF VARIOUS FERTILIZERS ON SAFFLOWER (CARTHAMUS TINCTORIUS) GROWTH AND PERFORMANCE IN SAND UNDER OUTDOOR LYSIMETER CONDITIONS
Nicolai David JABLONOWSKI, Forschungszentrum Jülich, IBG-2: Plant Sciences, GERMANY
Co-authors: J. Cohnen, B. Ohrem, V. Dombinov, H. Klose, Forschungszentrum Jülich, Germany

1BV.3.5
BRIDGING THE GAP BETWEEN PHYTOREMEDIATION SOLUTIONS ON GROWING ENERGY CROPS ON CONTAMINATED LANDS AND CLEAN BIOFUEL PRODUCTION
Efthymia ALEXOPOULOU, CRES - Center for Renewable Energy Sources and Saving, Biomass Dpt., GREECE

1BV.3.11
BIOMASS PRODUCTION ON DEGRADED LAND, BY USING SLUDGE FOR THE RECONVERSION
Daniela CIOLEA, University of Petrosani, Environmental Engineering and Geology Dpt., ROMANIA
Co-authors: I. Ionel, Politehnica University Timisoara, Romania; C. Badulescu, I. Apostu, Universitatea Petrosani, Romania; D. Bisorca, Politehnica University Timisoara, Romania

11:45 - 12:45
VISUAL PRESENTATIONS 5BV.4
Synthetic fuels from biomass and hydrogen

5BV.4.7
BIOCHAR DERIVED FROM THE RICE INDUSTRY BY-PRODUCTS AS SUSTAINABLE ENERGY STORAGE MATERIAL.
Asanka Nuvansiri Illankoon WIJEPALA ABEYSINGHE MUDIYANSELAGE, University of Brescia, Civil, Environmental, International Cooperation, and Mathematical Engineering Dpt., ITALY
Co-authors: C. Milanese, A. Girella, University of Pavia, Italy; G. Magnani, D. Pontiroli, M. Riccò, University of Parma, Italy; S. Sorlini, University of Brescia, Italy

5BV.4.8
FISCHER-TROPSCH SYNTHESIS FOR THE PRODUCTION OF BIOFUELS WITH A LOW ILUC-RISK
Sabrina Bahia KARAKACHE, Université de Sherbrooke, Chemical and Biotechnological Engineering, CANADA
Co-authors: S.B. Karakach, I.E.A. Achouri, N.A. Aabatzoglou, Université de Sherbrooke, Canada

5BV.4.9
ASSESSMENT OF ALCOHOL-BASED RENEWABLE JET FUEL PRODUCTION PATHWAY
Nusrat Fatema NAYAN, University of Alberta, Mechanical Engineering Dpt., CANADA
Co-authors: A. Dwivedi, M. Akbari, A. Kumar, University of Alberta, Edmonton, Canada

5BV.4.11
SUSTAINABILITY ASSESSMENT OF MARITIME GREEN FUELS
Megan ROUX, Technical University of Denmark, Environmental Engineering Dpt., DENMARK
Co-author: T.F. Astrup, Technical University of Denmark, Kongens Lyngby, Denmark

5BV.4.13
INDUSTRIAL ENERGY/FEEDSTOCK PRODUCTION FROM EFFLUENTS RICH IN CO AND CO2 FROM IRON AND STEEL
Charles David DUBE, National Research Council Canada, Energy, Mining and Environment Dpt., CANADA
Co-authors: R Cimpoia, National Research Council Canada, Montreal, Canada; C Roy, National Research Council Canada, Momntreal, Canada

15:00 - 16:00
VISUAL PRESENTATIONS 4BV.5
Experimental Assessment and Modelling of Various Gasification-related Aspects

Poster Presentations Concerning Experimental Assessment and Modelling of Various Gasification-related Aspects.

4BV.5.2
EXPERIMENTAL STUDY OF THE EFFECT OF SUPERHEATED STEAM AND OXYGEN ON SYNGAS QUALITY FROM DOWNDRAFT WOOD GASIFICATION
Arnaud ROUANET, UCLouvain, BELGIUM
Co-author: H. Jeanmart, UCLouvain, Louvain-la-Neuve, Belgium

4BV.5.10
A NOVEL WOOD CHP FUEL FOR DECENTRALIZED SMALL-SCALE WOOD GASIFIER CHP PLANTS - FIELD TESTING ON OPERATIONAL PARAMETERS AND EFFICIENCIES
Simon LESCHE, Technology and Support Centre in the Centre of Excellence for Renewable Resources, Solid Biofuels Dpt., GERMANY
Co-authors: D. Kuptz, H- Hartmann, Technology and Support Centre in the Centre of Excellence for Renewable Resources, Straubing, Germany; C. Albersinger, Alvatec GmbH & Co. KG, Schechen, Germany

15:00 - 16:00
VISUAL PRESENTATIONS 5BV.6
Conversion Processes and Technologies for Renewable Fuels and Biofuels Production

The posters in this session cover feedstock derived from waste materials, for example fish oils, used cooking oils, glycerol, agricultural and urban wastes as well as gaseous emissions, and catalysts for conversion processes to high grade renewable fuels including sustainable aviation fuels (SAF). Chemical, enzymatic and fermentative technologies for biofuels production are also addressed in this session.

5BV.6.2
GREENFLEXJET TO PRODUCE ADVANCED SUSTAINABLE AVIATION BIOFUEL
Artur MAJEWSKI, University of Birmingham, UNITED KINGDOM
Co-authors: S. Capaccili, A. Grassi, ETA-Florence Renewable Energies, Florence, Italy; A. Hornung, R. Daschner, Fraunhofer UMSICHT, Sulzbach-Rosenberg, Germany; M. Ouadi, M. Hofmann, University of Birmingham, United Kingdom; D. Lieftink, HyGear Technology and Services BV, Arnhem, The Netherlands; A. Contin, S. Righi, D. Marazza, S. Macrelli, Università di Bologna, Ravenna, Italy; A. Apfelbacher, Fraunhofer-Institut UMSICHT, Sulzbach-Rosenberg, Germany; M. Langley, C. Tuck, WRG, Exeter, United Kingdom; A. Claret, Leitat, Terrassa, Spain; S. Blakey, Sheffield University, United Kingdom; A. Governale, Sormec, Alcamo, Italy; M. Valk, SkyNRG, Amsterdam, The Netherlands; J. Hygate, Green Fuels Research, Berkeley, United Kingdom

5BV.6.5
UPGRADING OF WASTE FISH OIL INTO BIODIESEL USING GLYCEROL ENRICHED CAO AS CATALYST IN THE PRESENCE OF BUTANOL
Iver Bergh HVIDSTEN, Norwegian University of Life Sciences, Faculty of Sciences and Technology, NORWAY
Co-author: J.M. Marchetti, Norwegian University of Life Sciences, Norway

5BV.6.9
FATTY ACIDS ESTERIFICATION ON MICROPOROUS AND MESOPOROUS ALUMINO-SILICATE CATALYSTS: ACIDITY AND POROSITY EFFECT
Stamatia KARAKOULIA, Center for Research and Technology-Hellas (CERTH), GREECE
Co-authors: A. Marianou, C. Michailof, E. Iliopoulou, A. Lappas, Center for Research and Technology-Hellas (CERTH), Thessaloniki, Greece; M. Sountourlis, Newenergy, Center for Research and Technology-Hellas (CERTH, Serres, Greece

5BV.6.13
SIMULATION AND OPTIMIZATION OF CELLULOSIC MEDICAL WASTE FRACTION ACID AND ENZYMATIC HYDROLYSIS TO FERMENTABLE SUGARS FOR BIOETHANOL PRODUCTION.
Dimitrios SIDIRAS, University of Piraeus, Industrial Management and Technology Dpt., GREECE
Co-author: G. Giakoumakis, University of Piraeus, Greece

5BV.6.14
DILUTE ACID HYDROLYZED SOYBEAN MEAL FOR CULTIVATION OF ISOLATED CLOSTRIDIUM SP. G10
Vorapat SANGUANCHAIPAIWONG, King Monkut's Institute of Technology Ladkrabang, Biology, Faculty of Science, THAILAND
Co-authors: C. Sabua, N. Hemnusoornnanon, P. Nuangpanom, King Monkut's Institute of Technology Ladkrabang, Ladkrabang, Thailand; N. Leksawasdi, Chiang Mai University, Chiang Mai, Thailand

5BV.6.17
LIGNIN AND COPPER INCREASE RICE HUSKS DELIGNIFICATION IN THE ENZYMATIC PRETREATMENT WITH CULTURE EXTRACTS FROM PLEUROTUS OSTREATUS
Dinary Eloisa DURÁN-SEQUEDA, Universidad de los Andes, Bogotá D.C, COLOMBIA
Co-authors: K. Lozano, L. Cruz, D.D Durán-Aranguren, R. Sierra, Universidad de los Andes, Bogotá, Colombia; L. Rámirez, A.G. Pisabarro, Universidad Pública de Navarra, Pamplona, Spain

16:15 - 17:15
VISUAL PRESENTATIONS 2BV.7
Strategies across the globe to promote biomass for energy and materials

2BV.7.3
PADDY STRAW CO-FIRING IN EXISTING COAL FIRED UTILITY PLANTS AS A POSSIBLE SOLUTION OF STUBBLE BURNING ISSUE IN INDIA
Jaroslaw ZUWALA, Institute for Chemical Processing of Coal, POLAND

2BV.7.5
BRIDGING THE GAPS IN THE SWEDISH POLICIES FOR CLIMATE MITIGATION: THE CASE OF BIOFUELS
Jagdeep SINGH, Lund University Sweden, Centre for Environmental and Climate Science, SWEDEN

2BV.7.6
ENVIRONMENTAL PERFORMANCE OF BIO-BASED METHANE SUPPLY STRATEGIES TOWARDS LOCAL BIOECONOMY
Concetta LODATO, Technical University of Denmark, Environmental Engineering Dp., DENMARK
Co-authors: L. Hamelin, Toulouse Biotechnology Institute, Toulouse, France; D. Tonini, European Commission Joint Research Centre, Sevilla, Spain; T.F. Astrup, Technical University of Denmark, Kgs. Lyngby, Denmark

2BV.7.9
UK BIOECONOMY INTENSIVE PATHWAYS: THE ROLE OF THE BIOECONOMY IN ACHIEVING UK 2050 NET-ZERO TARGET
Eva SEVIGNE, Imperial College London, Centre for Environmental Policy, UNITED KINGDOM
Co-authors: P. Cooper, LCAworks, London, United Kingdom; J. Sparks, Aston University, Birmingham, United Kingdom; P. Mines, Industrial Biotechnology Leadership Forum (IBLF), London, United Kingdom; S. McQueen, University of York, United Kingdom; J. Woods, Imperial College London, United Kingdom

2BV.7.10
SUPPORT FOR DECARBONIZING THE EUROPEAN AGRICULTURE - THE AGROFOSSILFREE PROJECT
Dominik RUTZ, WIP Renewable Energies, Bioenergy & Bioeconomy Unit, GERMANY
Co-authors: C. Ma, R. Janssen, WIP Renewable Energies, München, Germany

2BV.7.11
POTENTIAL IMPACT ON BIOFUELS, HYDROGEN AND ELECTROFUELS OF POLICIES FOR REDUCING GHG EMISSIONS FROM SHIPPING
Julia HANSSON, IVL Swedish Environmental Research Institute, Climate & Sustainable Cities, SWEDEN
Co-authors: R. Parsmo, E. Frdell, IVL Swedish Environmental Research Institute, Göteborg, Sweden

16:15 - 17:15
VISUAL PRESENTATIONS 5BV.8
Hydrothermal processing

Hydrothermal liquefaction and carbonization

5BV.8.3
HYDROTHERMIC LIQUEFACTION OF ALGAR MASS TO OBTAIN BIO-OIL FOR SUSTAINABLE DEVELOPMENT IN RURAL AREAS
Magali Camila VIVAS-CUELLAR, Universidad Nacional de Ingenieria, Lima Dpt., PERU
Co-authors: E.A. Collado Dominguez, E.W. Norabuena Meza, O.F. Bullon Camarena, Universidad Nacional de Ingenieria, Lima, Peru; A.D. Arias Durand, Universidad Nacional Agraria La Molina, Lima, Peru; O.G. Marin-Flores, Washington State UniversityUniversidad Nacional de Ingenieria, Pullman, Usa

5BV.8.5
NUMERICAL ANALYSIS OF THE STIRRING EFFECT IN HYDROTHERMAL CARBONIZATION
Òmar ABDELDAYEM, IHE Delft for Water Education, Resource recovery and pollution prevention, THE NETHERLANDS
Co-authors: O.M.H.M Abdeldayem, C. Dupont, D. Ferras, M. Kennedy, IHE Delft for Water Education, Delft, The Netherlands

5BV.8.9
MULTIMODAL CHARACTERIZATION OF LIGNOCELLULOSIC BIOMASS AFTER STEAM-EXPLOSION PRETREATMENT
Edwige AUDIBERT, INRAE, FRANCE
Co-authors: G. Paës, B. Lebas, A. Habrant, F. Gaudard, B. Chabbert, INRAE, Reims, France; C. Spriet, CNRS, Lille, France; N. Brosse, Universitè Lorraine, Nancy, France

5BV.8.12
EFFECT OF REACTION CONDITIONS ON BIO-OIL PRODUCED FROM SODIUM LIGNOSULPHONATE
Danel BARTLETT, North-West University, SOUTH AFRICA
Co-authors: R. Venter, S. Marx, North-West University, Potchefstroom, South Africa

5BV.8.17
OPTIMIZATION OF THE NON-CATALYTIC HYDROTHERMAL LIQUEFACTION OF BLACK LIQUOR FOR HIGH YIELD AND QUALITY BIOCRUDE PRODUCTION
Babak ARJMAND, Tampere University, Materials Science and Environmental Engineering, FINLAND
Co-authors: V. Agrawal, T. Joronen, J. Konttinen, Tampere University, Finland

5BV.8.18
HYDROTHERMAL PROCESSING OF CARBON DIOXIDE AND WASTE BIOMASS TO PRODUCE BIO-CRUDE OIL: A NEW CO2 UTILIZATION STRATEGY
Islam GENINA, Carbon BioEnergy Inc., Carbon BioEnergy Inc., USA
Co-author: A. Tsang, MIT D-Lab, Cambridge, Usa

17:30 - 18:30
VISUAL PRESENTATIONS 2BV.9
Resource efficient economy

2BV.9.3
CONVERSION OF SPENT CELL CULTURE MEDIA WASTE TO NEW FERMENTATION FEED EFFICIENTLY SUPPORTS PRODUCTION OF RECOMBINANT PROTEIN BY ESCHERICHIA COLI.
Ciara LYNCH, BiOrbic Bioeconomy Research Center, IRELAND
Co-author: D. O'Connell, BiOrbic Bioeconomy Research Center, Dublin, Ireland

2BV.9.5
CIRCULARITY ANALYSIS TOOL: ASSESSING CIRCULARITY OF BIOMASS UTILISATION BY VALUING COMPOSITION, EFFICIENCY, AND FUNCTIONALITY
Juliën VOOGT, Wageningen Food & Biobased Research, THE NETHERLANDS
Co-authors: H.W. Elbersen, J. Broeze, J.M. Soethoudt, Wageningen Food & Biobased Research, Wageningen, The Netherlands

17:30 - 18:30
VISUAL PRESENTATIONS 5BV.10
Fundamental and applied pyrolysis

5BV.10.10
TORREFACTION AND KINETIC ANALYSIS OF OXYTREE, SORGHUM AND SEWAGE SLUDGE RESIDUE
Hilal ÜNYAY, Politechnika Lodzka Wydzial Inzynierii Procesowej i Ochrony Srodowiska, Chemical Engineering, POLAND
Co-author: S. Szufa, Lodz University of Technology, Poland

5BV.10.12
ANALYSIS OF A COMBUSTION PROCESS TO BURN THE GAS FROM BIOMASS PYROLYSIS
Danielle Regina da Silva GUERRA, Federal University of Pará, Mechanical Engineering, BRAZIL
Co-authors: A.C.M Vilas Boas, L.A.C. Tarelho, M.A.A Matos, University of Aveiro, Aveiro, Portugal; M.F.M Nogueira, Federal University of Pará, Belém, Brazil

5BV.10.13
KINETIC PARAMETERS DETERMINATION ON THE PYROLYSIS OF AMAZONIAN BIOMASSES
Danielle Regina da Silva GUERRA, Federal University of Pará, Mechanical Engineering, BRAZIL
Co-authors: B.M Farias, M.F.M. Nogueira, Federal University of Pará, Belém, Brazil; L.A.C. Tarelho, University of Aveiro, Aveiro, Portugal

5BV.10.17
THE EFFECT OF S/B RATIO AND ER ON THE CATALYTIC OXIDATIVE STEAM REFORMING OF VOLATILES FROM BIOMASS PYROLYSIS
Irati GARCÍA, University of the Basque Country, Chemical Engineering Dpt-, SPAIN
Co-authors: M. Cortazar, L. Santamaria, L. Olazar, M. Suárez, G. Lopez, M. Amutio, M. Olazar, Univ. of the Basque Country, Leioa, Spain

Wednesday, 11 May 2022
Visual Presentations

09:00 - 10:00
VISUAL PRESENTATIONS 4CV.1
Characterisation and pretreatment of solid biofuels

The session covers innovative characterisation as well as pretreatment and biomass handling technologies of solid biofuels and intermediate bioenergy carriers.

4CV.1.4
EVALUATION AND OPTIMISATION OF AN X-RAY FLUORESCENCE ANALYSER FOR THE RAPID DETERMINATION OF THE CHEMICAL COMPOSITION OF RENEWABLE SOLID BIOFUELS
Felix ENDRISS, Hochschule für Forstwirtschaft Rottenburg, GERMANY
Co-authors: D. Kuptz, H. Hartmann, Technology and Support Centre in the Centre of Excellence for Renewable Resources, Straubing, Germany; D. Wissmann, Spectro Analytical Instruments GmbH, Kleve, Germany; A. Kappler, University Tübingen, Tübingen, Germany; H. Thorwarth, University of Applied Forest Sciences Rottenburg, Rottenburg am Neckar, Germany

4CV.1.13
CORRELATIONS FOR HHV DETERMINATION OF SOLID BIOMASS RESIDUES FROM AMAZON REGION
Danielle Regina da Silva GUERRA, Federal University of Pará, Mechanical Engineering, BRAZIL
Co-authors: J.V.R. Moreira, A.N. Carneiro, M.F.M. Nogueira, H.M.Z. Rocha, Federal University of Pará, Belém, Brazil; D.C. Oliveira, Federal University of Itajubá, Brazil

4CV.1.14
PELLETING AND PELLET MILLING OF BAGASSE TRASH: THE INFLUENCE OF HARVEST SEASON, MOISTURE CONTENT AND PARTICLE SIZE
Johnson Ho Kwong LAU, University of Nottingham, Engineering Dpt., UNITED KINGDOM
Co-authors: E. Lester, J. McKechnie, J. Robinson, O. Williams, University of Nottingham, United Kingdom

4CV.1.16
BRIQUETTES PRODUCTION BASED ON DIFFERENT WASTES
Daniela CIOLEA, University of Petrosani, Environmental Engineering and Geology Dpt., ROMANIA
Co-authors: C. Badulescu, Universitatea Petrosani, Romania; I. Ionel, I.A. Halmaciu, Politehnica University of Timisoara, Romania

09:00 - 10:00
VISUAL PRESENTATIONS 1CV.2
Advances in industrial and municipal waste processing

1CV.2.1
SUSTAINABLE SOLUTION FOR THE PRODUCTION OF COMPOSTF FROM THE LEACHATE OF THE LANDFILL, THE GREEN WASTE AND WASTE FROM THE SUGAR FACTORIES
Khalid FARES, BIODECH - Cluster Valbiom Maroc, Biology Dpt, MOROCCO
Co-authors: M. Mobaligh, Cadi Ayyad University, Marrakech, Morocco; M. Arabi, Cluster VALBIOM, Oujda, Morocco; M. Idrissi Yahyaoui, A. Asehraou, Mohammed I University, Oujda, Morocco

1CV.2.4
BIO-ENERGY FROM MUNICIPAL WASTE THROUGH ANAEROBIC DIGESTION OR COMBUSTION?
Ioana IONEL, Politehnica University of Timisoara, Mechanical Engineering Dpt., ROMANIA
Co-authors: I. Ilonel, I.A. Halmaciu, M.R. Wachter, Politehnica University of Timisoara, Romania; S. Farsad, Ibn Zohr University, Agadir, Morocco

1CV.2.5
METHANE RECOVERY FROM THE LEACHATE OF MUNICIPAL SOLID WASTE LANDFILL BY USING ANAEROBIC DIGESTION. CASE STUDY
F. SALAHEDDINE, Ibn Zohr University, MOROCCO
Co-authors: Z. Anfar, A. Ait el Fakir, A. Amjlef, N. Elalem, Ibn Zohr University, Agadir, Morocco; I. Ionel, Politehnica University of Timisoara, Romania

1CV.2.10
EXPERIMENTAL INVESTIGATION OF THE INFLUENCE OF FEEDSTOCK MOISTURE CONTENT ON THE YIELD AND QUALITY OF THE PRODUCT FROM THE THERMO-CATALYTIC REFORMING PROCESS
Hillary Onyebuchi ONYISHI, Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT, Renewable Energy, GERMANY
Co-authors: R. Daschner`, J. Neidel, A. Apfelbacher, A. Hornung, Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT, Sulzbach-Rosenberg, Germany

1CV.2.13
BENEFITS AND CHALLENGES OF CARDBOARD MATERIALS AS SOLID BIOFUEL FOR POWER GENERATION
Johnson Ho Kwong LAU, University of Nottingham, Engineering Dpt., UNITED KINGDOM
Co-authors: E. Lester, J. McKechnie, J. Robinson, O. Williams, University of Nottingham, United Kingdom

1CV.2.14
TECHNO-ECONOMIC ANALYSIS OF A DECENTRALIZED DISPOSAL CONCEPT FOR SEWAGE SLUDGE BY PYROLYSIS AND SUBSEQUENT ENTRAINED FLOW GASIFICATION FOR GAS ENGINE USE
Andreas EWALD, TU München, Chair of Energy Systems, GERMANY
Co-authors: S. Fendt, H. Spliethoff, TU München, Germany

1CV.2.15
EVALUATION OF THE BIOMETHANATION POTENTIAL OF MULTIPLE REAL DOWNSTREAM PRODUCTS FROM WASTE TREATMENT
Charles David DUBE, National Research Council Canada, Energy, Mining and Environment Dpt., CANADA
Co-authors: R. Albu Cimpoa, F. Matteau Lebrun, National Research Council Canada, Montreal, Canada

11:45 - 12:45
VISUAL PRESENTATIONS 4CV.3
Biogas Research

4CV.3.1
EFFECT OF BIOAUGMENTATION ON BIOGAS AND METHANE YIELDS OF MISCANTHUS X GIGANTEUS, ARUNDO DONAX L. AND PANICUM VIRGATUM
Vanja JURISIC, University of Zagreb Faculty of Agriculture, Agricultural Technology, Storing and Transport Dpt., CROATIA
Co-authors: T. Ivankovic, University of Zagreb Faculty of Science, Zagreb, Croatia; M. Kontek, A. Matin, N. Bilandzija, M. Grubor, T. Kricka, University of Zagreb Faculty of Agriculture, Zagreb, Croatia

4CV.3.2
PRODUCTION OF BIOGAS FROM MISCANTUS DEPENDING ON SIZE OF RAW MATERIAL PARTICLES
Ana MATIN, University of Zagreb Faculty of Agriculture, Agricultural Technology, Storing and Transport Dpt., CROATIA
Co-authors: M. Kontek, M. Grubor, N. Bilandzija, V. Jurisic, T. Kricka, University of Zagreb Faculty of Agriculture, Croatia

4CV.3.6
NOVEL TREATMENT OF STORED ANIMAL SLURRIES FOR IMPROVED RESOURCE EFFICIENCY
Camilla THORN, Glasport Bio, IRELAND
Co-authors: S. Nolan, D. Hughes, R. Friel, GlasPort Bio, Galway, Ireland; C.S. Lee, V. O'Flaherty, Microbial Ecology, NUIG, Galway, Ireland

4CV.3.10
CO-DIGESTION OF PIG MANURE WITH USED COOKING OIL CAUSES ENHANCED BIOGAS PRODUCTION DUE TO SYNERGISTIC EFFECTS
Preseela SATPATHY, EUTEC Institute, Hochschule Emden/Leer, GERMANY
Co-author: S. Steinigeweg, EUTEC Institute, Hochschule Emden/Leer, Emden, Germany

4CV.3.17
MODELLING STUDY ON THE CO-DIGESTION OF NOPAL CLADODES WITH FARM MANURES
Fernando RAMONET MARQUES, TU Wien, Chemical Engineering Dpt., AUSTRIA
Co-author: M. Harasek, TU Wien, Vienna, Austria

4CV.3.18
ANAEROBIC CO-DIGESTION OF RESIDUAL LIQUORS FROM LIGNOCELLULOSIC BIOMASS FRACTIONATION WITH A SYNTHETIC FOOD WASTE FOR BIOGAS PRODUCTION
Leandro GOMES, Universidade Nova de Lisboa. Faculdade de Ciências e Tecnologia. NIF 501 559 094, PORTUGAL
Co-authors: J. Pres, M. Ventura, A.L. Fernando, N. Lapa, Universidade Nova de Lisboa, Almada, Portugal; B. R. Ciaramella, University of Catania, Catania, Italy; G. Testa, S. L. Cosentno, University of Catania, Italy

4CV.3.19
ENHANCEMENT OF BIOGAS PRODUCTION BY INTEGRATING ANAEROBIC DIGESTION AND PYROLYSIS
Ran TAO, WAI Environmental Solutions AS, NORWAY
Co-authors: V. Sivalingam, C. Dinamarca, University of South-Eastern Norway, Porsgrunn, Norway; L. Lin, G. Xin, WAI Environmental Solutions, Skoppum, Norway

11:45 - 12:45
VISUAL PRESENTATIONS 3CV.4
Integrating bioenergy in energy systems

3CV.4.6
TECHNO-ECONOMIC ASSESSMENT OF CO-PROCESSING OF FAST PYROLYSIS BIO-OIL WTH FOSSIL FUEL DERIVED VACUUM GAS OIL
Arun SREEKUMAR, University of Alberta, Mechanical Engineering, CANADA
Co-authors: A.O. Oni, V. Kurian, A. Kumar, University of Alberta, Edmonton, Canada

3CV.4.12
BIOMASS-DERIVED SOLUTIONS FOR THE DECARBONISATION OF THE EUROPEAN STEEL, CERAMICS AND GLASS SECTORS
Irene BOLEA, FUNDACION CIRCE, SPAIN
Co-authors: Al. Carmona, A. Rueda, A. Fresneda, CIRCE, Zaragoza, Spain; E. Karampinis, A. Lympeti, P. Grammelis, CERTH, Marousi, Greece

3CV.4.13
BIOMASS TO H2, A CARBON NEGATIVITY UPGRADING OF WASTE
Emanuele DE MAINA, University of Study Rome Tor Vergata, ITALY
Co-authors: L. Bartolucci, V. Mulone, C. Cordiner, University of Study Rome Tor Vergata, Italy

15:00 - 16:00
VISUAL PRESENTATIONS 4CV.5
Advances in gasification for synthesis gas production

This session focuses on the advances in biomass gasification for synthesis gas production as well as the emissions of these gasification processes

4CV.5.2
EUBCE Student Awardee Presentation
TECHNOECONOMIC ANALYSIS OF CO-PRODUCTION OF SYNGAS AND BIOCHAR BASED ON EXPERIMENTAL FLUIDIZED BED GASIFICATION
Jaime GUERRERO, Fundación CIRCE, SPAIN
Co-authors: S. Sala, A. Fresneda, I. Bolea, Fundación CIRCE, Zaragoza, Spain

4CV.5.3
COMBINED METHANATION AND BIOMASS GASIFICATION WITH HIGH PRESSURE (COMBPRES) - PRESENTATION OF THE 400 BAR HPHT TEST RIG
Lukas REINER, University of Stuttgart, GERMANY
Co-authors: G. Waizmann, M. Schmid, University of Stuttgart, Germany; G. Scheffknecht, University of Stuttgart, t, Germany

4CV.5.5
A COMPREHENSIVE NUMERICAL AND EXPERIMENTAL ANALYSIS OF BIOMASS CHAR THERMOCHEMICAL CONVERSION IN O2, CO2, H2O AND THEIR MIXTURES
Mohammed ASHERUDDIN, Indian Institute of Science, INDIA
Co-authors: A.M. Shivapuji, S. Dasappa, Indian Institute of Science, Bangalore, India

4CV.5.8
EFFECT OF INORGANICS ON PYROLYSIS AND GASIFICATION OF WOODY AND NON-WOODY BIOMASS: ASSESSMENT OF THE ACCURACY OF CHEMICAL KINETIC MODELING
Ana FERREIRO, IDMEC, PORTUGAL
Co-authors: R. Segurado, M.A.A. Mendes, M. Costa, IDMEC, Lisboa, Portugal; P. Giudicianni, R. Ragucci, STEMS - CNR, Naples, Italy; F.J. Rivas, M. Abián, M.U. Alzueta, Aragón Institute of Engineering Research (I3A), Zaragoza, Spain

15:00 - 16:00
VISUAL PRESENTATIONS 3CV.6
Biomass use in biorefineries

3CV.6.11
CATALYTIC HYDROGENATION OF CRUDE HEXANOIC ACID, EASILY OBTAINED BY ANAEROBIC FERMENTATION OF GRAPE POMACE
Domenico LICURSI, University of Pisa, Department of Chemistry and Industrial Chemistry, ITALY
Co-authors: D. Licurs, C. Antonetti, N. Di Fidio, S. Fulignati, A.M. Raspolli Galletti, University of Pisa, Italy; E. Jones, G.A. Martinez, F. Fava, L. Bertin, University of Bologna, Italy

3CV.6.13
MUNICIPAL SOLID WASTE-BASED BIOREFINERY FOR PRODUCTION OF LIQUID AND SOLID FUELS, BIOCHEMICAL AND BIO-POLYMERS
Sanette MARX, North-West University, Centre of Excellence in Carbon-based Fuels, SOUTH AFRICA
Co-author: R.J. Venter, North-West University, Potchefstroom, South Africa

3CV.6.14
CO-DESIGN, ECONOMIC AND SPATIAL ANALYSIS OF GREEN BIOREFINERIES - AN IRISH CASE STUDY
Alice HAND, Munster Technological University, IRELAND
Co-authors: A. Menon, E. Marsh, B. O'Dwyer, H. Mc Mahon, J. Gaffey, Munster Technological University, Co. Kerry, Ireland; P. Holloway, University College Cork, Ireland

3CV.6.15
BIOENERGY FROM BIO-OIL FERMENTATION USING MICROBIAL COMMUNITIES TO PRODUCE ADDED VALUE CHEMICALS
Maria Lorena FALCO, Université de Pau et des Pays de l'Adour, IPREM-College STEE, FRANCE
Co-authors: M. Wyszomirska, Faculty of Chemistry, Warsaw University of Technology, ., Poland; B.B. Perez-Martinez, A. Serras-Malillos, E Acha, A Lopez-Urionabarrenechea, Department of Chemical and Environmental Engineering, University of the Basque Country, Bilbao, Spain; A. Iuliano, Faculty of Chemistry, Warsaw University of Technology, Poland; C Cravo-Laureau, R Duran, Université de Pau et des Pays de l'Adour, Pau, France

3CV.6.18
INTEGRATING CONCENTRATED SOLAR POWER IN THERMOCHEMICAL BIOREFINERIES: IMPACT OF LOCATION ON PERFORMANCE
Raúl GUTIÉRREZ, AICIA, SPAIN
Co-authors: P. Haro, K. Guerra, University of Seville, Spain

3CV.6.19
PRODUCTION OF FERMENTABLE SUGARS AND PECTIN FROM ORANGE RESIDUES THROUGH ACID HYDROLYSIS: EVALUATION OF PROCESS CONDITIONS APPLICABLE TO A BIOREFINERY USING SURFACE RESPONSE METHODOLOGY
Daniel David DURÁN-ARANGUREN, Universidad de los Andes, Chemical and Food Engineering Dpt., COLOMBIA
Co-authors: L.C. Villabona, R. Sierra, Universidad de los Andes, Bogotá, Colombia

3CV.6.21
IMMOBILIZED ENZYMATIC PROCESS FOR THE PRODUCTION OF FRUCTOSE FROM INULIN-RICH CARDOON ROOTS
Federico LIUZZI, ENEA Research Centre, Biorefineries and green chemistry, ITALY
Co-authors: E. Viola, V. Valerio, I: De Bari, ENEA Research Centre, Rotondella, Italy

16:15 - 17:15
VISUAL PRESENTATIONS 6CV.7
Biorefinery platforms for bio-based chemicals and polymers

6CV.7.5
COMBINED EXTRACTION OF FURFURAL AND HMF FROM SUGARS AND PHENOLS FROM LIGNIN
Mariell SVÅSAND, University of Bergen, Chemistry Dpt., NORWAY
Co-authors: S. Ghoreishi, T. Barth, University of Bergen, Norway

6CV.7.11
BIO-CATALYTIC UPGRADING OF VANILLYL ALCOHOL IN HTL AQUEOUS PRODUCT TO VANILLIN
Sanette MARX, North-West University, Centre of Excellence in Carbon-based Fuels, SOUTH AFRICA
Co-authors: E. Chimbazaza, R.J. Venter, R. van der Sluis, North-West University, Potchefstroom, South Africa

17:30 - 18:30
VISUAL PRESENTATIONS 6CV.9
Co-production of biofuels and biochemicals

6CV.9.1
BIOREFINING OF QUINOA RESIDUES FOR PRODUCTION OF ADVANCED BIOFUELS AND BIOPOLYMERS
Carlos Orestes MARTÍN MEDINA, Inland Norway University of Applied Sciences, Biotechnology Dpt., NORWAY
Co-authors: C. Carrasco, Instituto de Investigación y Desarrollo de Procesos Químicos, Facultad de Ingeniería, Universidad Ma, La Paz, Bolivia; L.J. Jönsson, Umeå University, Umeå, Sweden; L. Romero-Soto, Instituto de Investigación y Desarrollo de Procesos Químicos, La Paz, Bolivia

17:30 - 18:30
VISUAL PRESENTATIONS 4CV.10
Anaerobic digestion for biogas and biomethane production

4CV.10.2
BE-CLEAN: A NEW P2X DESULFURIZATION TECHNOLOGY FOR BIOGAS CLEANING
Sebastian BORGQUIST, DTU Kemiteknik, Chemcial Engineering, DENMARK
Co-authors: S.N.B. Villadsen, P.L. Fosbøl, J. Abildskov, DTU Chemical Engineering, Kongens Lyngby, Denmark

4CV.10.6
ANAEROBIC DIGESTION OF THE HALOPHYTE PLANT SALICORNIA: BIOMETHANE POTENTIAL AND IDENTIFICATION OF INHIBITORY COMPOUNDS.
Aadila CAYENNE, Hochschule Flensburg University of Applied Sciences, GERMANY
Co-authors: H. Uellendahl, Hochschule Flensburg University of Applied Sciences, Flensburg, Germany; A. Turcios, J. Papenbrock, Leibniz University Hannover, Hannover, Germany; M.H Thomsen, Aalborg University, Esbjerg, Denmark

Thursday, 12 May 2022
Visual Presentations

09:00 - 10:00
VISUAL PRESENTATIONS 1DV.1
Agro-industrial feedstocks and side streams

1DV.1.1
BIOMASS PRODUCTION AND OTHER ECOSYSTEM SERVICES IN AGROFORESTRY OR SHORT ROTATION COPPICE FORESTRY ON FORMER ARABLE LAND
Dagnija LAZDINA, LSFRI Silava, Forest Regeneration and Establishment Dpt., LATVIA

1DV.1.7
ENERGETIC VALORIZATION OF THE BIOMASS FROM OLIVE REJUVENATION PRUNING OF TRADITIONAL OLIVE ORCHARDS
Enrico Maria LODOLINI, Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria, Centro di ricerca Olivicoltura, Frutticoltura e Agrumicoltura, ITALY
Co-authors: E. Santilli, F. Zaffina, Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria, Rende, Italy; G. Toscano, Università Politecnica delle Marche, Ancona, Italy; A Assirelli, Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria, Forlì, Italy

1DV.1.8
FATE OF SILICA PHYTOLITHS IN THE INDUSTRIAL CRUSHING OF SUGARCANE STALKS
Djanira RODRIGUES NEGRAO, LNBR - Brazilian Biorenewables National Laboratory, BRAZIL
Co-author: C Driemeier, LNBR - Brazilian Biorenewables National Laboratory, Campinas, Brazil

1DV.1.9
TEMPORAL VARIATION OF LABDANUM GUM EXTRACTION FROM CISTUS LADANIFER IN THE SUPRAMEDITERRANEAN STAGE OF SPAIN
Pedro V. MAURI ABLANQUE, IMIDRA, Investigación Agroambiental Dpt., SPAIN
Co-authors: C. Cano-Shaw, J. Plaza, I. Bautista, M. Jimenez, P.V. Mauri, IMIDRA, Alcalá de Henares, Spain; L. Parra, UPV, VALENCIA, Spain

09:00 - 10:00
VISUAL PRESENTATIONS 2DV.2
Governance and implications of biomass in bioeconomy and bioenergy

2DV.2.2
A POLITICAL-ECONOMIC ANALYSIS OF THE IMPACT OF LPG PRICES ON THE ENERGY TRANSITION OF LOW-INCOME FAMILIES IN BRAZIL
Daniela HIGGIN AMARAL, University of São Paulo, Institute of Energy and Environment, BRAZIL
Co-authors: S. Aquino Neva, M.J. Do Nascimento Anater, A.P. De Souza Silva, S. Teixeira Coelho, University of São Paulo, Brazil

2DV.2.3
MONETIZING ECOSYSTEM SERVICES AT FIELD SCALE USING CONTRASTING LAND USE SCENARIOS
Moritz VON COSSEL, University of Hohenheim 340b, Biobased Resources in the Bioeconomy (340b), GERMANY
Co-authors: K. Kiefer, J. Kremer, P. Zeitner, B. Winkler, University of Hohenheim, Institute of Crop Science, Biobased Resources in the Bioeconomy (340b), Stuttgart, Germany; M. Wagner, Hochschule Geisenheim University, Department of Applied Ecology, Geisenheim, Germany

2DV.2.5
CHALLENGES AND OPPORTUNITIES TO BIOENERGY UTILIZATION IN CLIMATE MITIGATION: A GLOBAL SUSTAINABILITY PERSPECTIVE
Jagdeep SINGH, Lund University Sweden, Centre for Environmental and Climate Science, SWEDEN

11:45 - 12:45
VISUAL PRESENTATIONS 1DV.3
Microalgae and macrophytes across challenging environments

This session will explore the use of microalgae and macrophytes to treat wastewater, in thermal waters, in floating applications, and in desert conditions, a range of truly challenging environments.

1DV.3.3
THE ENERGY POTENTIAL OF DIFFERENT BIOMASS FRACTIONS OF TYPHA DOMINGENSIS GROWN IN GREEN FLOATING FILTERS
Fanny Mabel CARHUANCHO LEON, Agroenergy Group of Politecnica of Madrid University, School of Agricultural, Food and Biosystems Engineering, SPAIN
Co-authors: F. M. Carhuancho, P.L. Aguado, M.D. Curt, Agroenergy Group of Politecnica of Madrid University, Spain

11:45 - 12:45
VISUAL PRESENTATIONS 1DV.4
Biomass resources and potentials

1DV.4.4
SUSTAINABLE FEEDSTOCK PRODUCTION POTENTIAL FROM MARGINAL AND ABANDONED FARMLAND IN SWEDEN
Josefin WINBERG, Lund University, SWEDEN

1DV.4.11
ENERGY POTENTIAL FROM DIFFERENT BIOMASS TYPES IN BOLIVIA
Evelyn CARDOZO, Universidad Mayor de San Simon, Facultad de Ciencias y Tecnologia, BOLIVIA

1DV.4.13
AGRICULTURAL/FOREST RESIDUES FOR ADVANCED BOFUELS. FINAL RESULTS FROM THE BECOOL PROJECT
Myrsini CHRISTOU, Center for Renewable Energy Sources and Saving, Biomass Dpt., GREECE
Co-authors: M. Chrstou, Center for Renewable Energy Sources and Saving, Pikermi, Greece; P. Perez Ortiz, C. Martin Sastre, P. Ciria, CIEMAT, Madrid, Spain

13:45 - 14:45
VISUAL PRESENTATIONS 1DV.5
Biomass resources and potentials

1DV.5.4
DEEP LEARNING IN DATA ANALYSIS FOR THE CLASSIFICATION AND SELECTION OF BIOMASS VALORIZATION ROUTES
Daniel David DURÁN-ARANGUREN, Universidad de los Andes, Chemical and Food Engineering Dpt., COLOMBIA
Co-authors: N. Suárez-Díaz, P. A. Vásquez, D.D. Durán Aranguren, R. Sierra, Universidad de los Andes, Bogotá, Colombia

1DV.5.5
MONITORING CASTOR BEANS MATURITY VIA REMOTE SENSING
Walter STEFANONI, CREA-IT, ITALY
Co-authors: L. Francesco, N. Palmieri, S. Lazar, L. Pari, CREA-IT, Monterotondo, Italy; C. Cavalaris, C. Karamoutis, Department of Agricultural Crop Production and Rural Environment, School of Agricultural Sciences,, Volos, Greece; E. Alexopoulou, Centre for Renewable Energy Sources and Saving, Pikermi, Greece

1DV.5.6
REMOTE SENSING APPLICATIONS TO SUPPORT THE MISCANTHUS PRODUCTION CHAIN
Giorgio IMPOLLONIA, Università Cattolica del Sacro Cuore, VAT 02133120150, ITALY
Co-authors: M. Croci, E. Martani, A. Ferrarini, S. Amaducci, Università Cattolica del Sacro Cuore, Piacenza, Italy; J. Brook, J. Clifton-Brown, Aberystwyth University, Aberystwyth, United Kingdom; J. Kam, Terravesta, Lincoln, United Kingdom; L. Trindade, ageningen University & Research, Wageningen, The Netherlands

1DV.5.8
ESTIMATION OF FOREST BIOMASS POTENTIAL BY MUNICIPALITIES IN JAPAN
Kazuyoshi NEMOTO, Tohoku University, Graduate School of Life Science, JAPAN
Co-author: T. Nakata, Tohoku University, Sendai, Japan

1DV.5.10

EVALUATION OF SOIL CONTAMINANT UPTAKE AND BAMBOO GROWTH RATE UNDER WINE EFFLUENT AND ACID MINE DRAINAGE SOIL CONDITIONS OF TWO BAMBOO SPECIE SEEDLINGS GROWN UNDER GREENHOUSE CONDITIONS FOR 14 MONTHS

Zama MTHABELA, University of the Witwatersrand, Chemical and Metallurgy Dpt., SOUTH AFRICA
Co-author: S Bada, University of the Witwatersrand, Johannesburg, South Africa