

Visual presentation 4AV.1 | 13:30 - 15:00 | Poster Area
SUSTAINABILITY ASSESSMENT OF BIOENERGY AND BIOECONOMY

CHAIRPERSONS:

Olivier DUBOIS, UN Food and Agriculture Organisation, Senior Natural Resources Officer & Leader Energy Programme, ITALY

Rocio DIAZ-CHAVEZ, Stockholm Environment Institute, Africa Centre c/o, World Agroforestry Centre (ICRAF), Centre for Environmental Policy, KENYA

4AV.1.1**NEW OIL PALM PLANTATIONS IN PAPUA, INDONESIA. CHALLENGES IN THE ESTABLISHMENT PROCESS**

Pablo Jose ACOSTA GARCIA, Technical University of Madrid, SPAIN

Co-authors: P. Acosta, M.D. Curt, Technical University of Madrid, Spain

4AV.1.4**USE OF BIOMASS RESIDUES FOR ENERGY PRODUCTION: A COMPARATIVE ANALYSIS OF ENERGY POTENTIAL BETWEEN LOW HDI BRAZILIAN MUNICIPALITIES IN SÃO PAULO (SP) AND BAHIA (BA)**

Suani COELHO, University of São Paulo, Institute of Energy and Environment, BRAZIL

Co-authors: C.M. Treuann Rocha, Institute of Energy and Environment (IEE) - University of São Paulo (USP), Brazil

4AV.1.5**FUELING NEXT GENERATION HYBRID VEHICLES WITH ENERGY CANE ETHANOL**

Pablo HERNANDEZ, UNICAMP, BRAZIL

Co-authors: L. C. Carvalho, D. S. Arantes, Unicamp, Campinas, Brazil

4AV.1.6**THE ROLE OF EMERGING TECHNOLOGIES IN COMPETITIVE RENEWABLE HYDROGEN PRODUCTION USING ADVANCED BIOREFINERIES**

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

Co-authors: O. Ayala, P. Hernandez-Sanchez, CINVESTAV, Guadalajara, Mexico; I. Valdez-Vazquez, II, UNAM, Queretaro, Mexico; A. De Leon-Rodriguez, IPICYT, San Luis Potosi, Mexico

4AV.1.8**FOREST BIOMASS FOR ENERGY PRODUCTION IN PORTUGAL: EXPLORING PERCEPTIONS OF BENEFITS IN TERMS OF FOREST FIRES**

Sara SOUSA, Coimbra Business School, Economics Dpt., PORTUGAL

Co-authors: M. Valente, L. Pinto, University of Minho, Braga, Portugal; A. Botelho, University of Aveiro, Portugal

4AV.1.9**THE SUSTAINABILITY OF BIOENERGY IN FINLAND AND GLOBALLY - FACT CHECK**

Jukka KONTTINEN, Tampere University, Materials Science and Environmental Engineering Dpt., FINLAND

Co-authors: E. Vakkilainen, Lappeenranta University of Technology, Finland; V. Orasuo, Tampere University of Technology, Finland; P. Aalto, University of Tampere, Finland

4AV.1.10**SUSTAINABLE BIOMASS AND IEA BIOENERGY - MEETING THE CHALLENGES TO FOSTER OPPORTUNITIES**

Uwe R. FRITSCHKE, IINAS, Scientific Director, GERMANY

Co-authors: G. Berndes, Chalmers University, Gothenburg, Sweden; A. Cowie, NSW Department of Primary Industries, Armidale, Australia; F. van der Hilst, Utrecht University, The Netherlands

4AV.1.11**SUSTAINABLY CERTIFIED ADVANCED BIOFUELS - OPPORTUNITIES AND BARRIERS IN THE CONTEXT OF CONVERGING BIOENERGY SECTORS**

Ric HOEFNAGELS, Utrecht University, Copernicus Institute, THE NETHERLANDS

Co-author: T. May-Moulin, Utrecht University, The Netherlands

4AV.1.12**GROWING ENERGY CROPS FOR BIOMETHANE PRODUCTION IN THE LUSATIAN LIGNITE DISTRICT, EASTERN GERMANY - A CONTRIBUTION TO AGRICULTURAL RECLAMATION**

Dominik RUTZ, WIP Renewable Energies, Unit Bioenergy & Bioeconomy, GERMANY

Co-authors: D. Knoche, R. Köhler, FIB, Finsterwalde, Germany; R. Mergner, C. Khawaja, R. Janssen, WIP, Munich, Germany

4AV.1.13**SUSTAINABILITY ASSESSMENT OF INNOVATIVE ENERGY TECHNOLOGIES - INTEGRATED BIOMASS-BASED PRODUCTION OF FUEL, ELECTRICITY AND HEAT**

Martina HAASE, KIT Karlsruhe Institute of Technology, ITAS Dpt., GERMANY

Co-author: C. Rösch, KIT, Karlsruhe, Germany

4AV.1.14**COMMERCIALIZATION FACTORS FOR OIL BASED BIOFUELS AND COPRODUCTS FROM BRASSICA CARINATA**

George PHILIPPIDIS, University of South Florida, Patel College of Global Sustainability, USA

Co-authors: D.P. Geller, W.G. Hubbard, University of Georgia, Athens, GA, Usa; E.N. Coppola, Applied Research Associates, Inc., Panama City, Usa; D.L. Wright, University of Florida, Quincy, Usa

4AV.1.15**GHG EMISSION REDUCTION COSTS OF VARIOUS TECHNOLOGIES IN THE HEATING AND MOBILITY SECTORS**

Christoph STRASSER, Bioenergy 2020+, AUSTRIA

Co-authors: M. Schwarz, R. Sturmlechner, Bioenergy2020+, Wieselburg-Land, Austria

4AV.1.19**SOCIO-ECONOMICAL IMPLICATION OF GRASSES (MISCANTHUS AND ALFA) FROM MARGINAL LAND FOR THE BIO-FUEL PRODUCTION: GREAT CONFLICTS OF INTEREST DEMONSTRATED IN TWO WESTERN MEDITERRANEAN COUNTRIES**

Joël POUSTIS, Hexabio, Biomass and Energy Dpt., FRANCE

4AV.1.20**BIO-BASED PLASTICS: A COMPARATIVE LCA OF BIO- AND FOSSIL-BASED MULCHING FILM**

Claudia BULGHERONI, European Commission, JRC, Directorate C - Energy, Transport & Climate, ITALY

Co-authors: S. Nessi, A. Konti, I. Lonza, European Commission, JRC, Ispra, ITALY

4AV.1.22**APPLICATION OF DIFFERENT AMENDMENT PRACTICES TO IMPROVE THE FERTILITY OF SOILS IN MARGINAL LANDS OF CENTRAL SPAIN**

Rocio MILLAN, CIEMAT - Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas, Environment Dpt., SPAIN

Co-authors: R. Millán, T. Schmid, M.J. Sierra, M. Rodríguez-Rastrero, M. Guirado, J. Rodríguez-Alonso, O. Escolano, M. Laca, M. Pelayo, J. Díaz-Puente, C. Cabrales, R. Rodríguez, N. Arévalo, J.C. Díaz, R. Saldaña, C. Menarguez, CIEMAT, Madrid, Spain

4AV.1.23**ASSESSING OPTIONS FOR THE SUSTAINABLE INTENSIFICATION OF AGRICULTURE FOR INTEGRATED PRODUCTION OF FOOD AND NON-FOOD PRODUCTS AT DIFFERENT SCALES (SUSTAG)**

Christoph MÜLLER, Potsdam Institute for Climate Impact Research, GERMANY

Co-authors: I. Mouratiadou, Utrecht University, The Netherlands; A. Beblek, R. Berges, Agrathaer, Müncheberg, Germany; B. Bodirsky, J. Heinke, H. Lotze-Campen, PIK, Potsdam, Germany; B. Faye, T. Gaiser, University of Bonn, Germany; A. Garrido, A. Rodriguez-Sanchez, UPM, Madrid, Spain; T. Heckelet, University of Bonn, Germany; M. Hoffman, University of Göttingen, Germany; C. Latka, University of Bonn, Germany; H. Lehtonen, T. Palosuo, LUKE, Helsinki, Finland; X. Liu, LUKE, Helsinki, Finland; I. Lorite, Junta de Andalucía, Sevilla, Spain; F. Ewert, C. Nendel, ZALF, Müncheberg, Germany

Visual presentation 1AV.2 | 13:30 - 15:00 | Poster area
ADVANCED TECHNOLOGIES FOR AN EFFECTIVE BIOWASTE VALORIZATION
CHAIRPERSONS:

Andrea SALIMBENI, INGELIA Italia, Research & Development Dpt., ITALY

Invited

1AV.2.4
CHARACTERISTICS OF SOLID REFUSE FUEL DERIVED FROM MUNICIPAL AND INDUSTRIAL WASTES FOR COMBUSTION

Tae-In OHM, Hanbat National University, Civil & Environmental Engineering Dpt., KOREA

Co-authors: J. Chae, S. Yang, H. Rho, Hanbat National University, Daejeon, Korea; M. Zhang, Hanbat National University, Daejeon, P.R. China

1AV.2.5
SILOXANES CONCENTRATION AND REMOVAL IN BIOMETHANE FROM SEWAGE SLUDGE

Marco SEGRETO, Consiglio Nazionale delle Ricerche, Istituto sull'Inquinamento Atmosferico, ITALY

Co-authors: M. Torre, D. Borin, L. Tomassetti, V. Paolini, F. Petracchini, National Research Council of Italy - Institute of Atmospheric Pollution Research, Monterotondo, Italy; E. Paris, F. Gallucci, Consiglio per la Ricerca in Agricoltura e l'Analisi dell'Economia Agraria, Unità di Ricerca per l'In, Monterotondo, Italy; D. Scaglione, Gruppo CAP, Assago, Italy

1AV.2.6
CLARIFYING AGENTS AFFECT CHLORINE CONCENTRATION IN BIOMETHANE FROM SEWAGE SLUDGE

Marco SEGRETO, Consiglio Nazionale delle Ricerche, Istituto sull'Inquinamento Atmosferico, ITALY

Co-authors: D. Borin, M. Torre, L. Tomassetti, V. Paolini, F. Petracchini, National Research Council of Italy - Institute of Atmospheric Pollution Research, Monterotondo, Italy; M. Carnevale, Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria - Ingegneria agraria (CREA, Monterotondo, Italy; F. Gallucci, CREA, Monterotondo, Italy; D. Scaglione, Gruppo CAP, Assago, Italy

1AV.2.7
PREDICTIVE MODEL FOR FUELS FROM HYDROTHERMAL LIQUEFACTION OF MUNICIPAL SOLID WASTE

Sanette MARX, North-West University, School of Chemical and Minerals Engineering, SOUTH AFRICA

Co-author: V. Roelf J, North-West University, Potchefstroom, South Africa

1AV.2.8
FOOD WASTE MANAGEMENT IN THE MEDITERRANEAN HOSPITALITY SECTOR - PILOT STUDY IN HERAKLION, GREECE

Philipp FUCHS, University of Stuttgart, Institute for Sanitary Engineering, Water Quality and Solid Waste Management, GERMANY

Co-authors: D. Leverenz, G. Hafner, M. Rapf, M. Kranert, University of Stuttgart, Germany; I. Daliakopoulos, T. Manios, Technological Educational Institute of Crete, Heraklion, Greece

1AV.2.12
ESTERS PRODUCTION BY YEASTS USING TEQUILA VINASSES AS A SUBSTRATE

Lorena AMAYA-DELGADO, CIATEJ AC, Industrial Biotechnology Dpt., MEXICO

Co-authors: A. Díaz-García, J.J. Rodríguez-Romero, A. Gschaedler, J. Arrizon, CIATEJ, Zapopan, Mexico

1AV.2.13
ENDOGENOUS BIO-WASTE AND BY-PRODUCT STREAMS VALUED AS A RESOURCE FOR FERMENTATIVE HYDROGEN PRODUCTION

Joana ORTIGUEIRA, LNEG - National Laboratory for Energy and Geology, PORTUGAL

Co-authors: M. Pacheco, M. Pacheco, F. Girio, P. Moura, National Laboratory for Energy and Geology, Lisbon, Portugal; C. Silva, Instituto D. Luiz, FCUL, Lisbon, Portugal

1AV.2.14
PRODUCTION OF CAROTENOIDS AND BIOSURFACTANTS BY GORDONIA ALKANIVORANS STRAIN 1B USING FOOD RESIDUES AND DERIVATIVES

Tiago SILVA, Laboratório Nacional de Energia e Geologia, Unidade de Bioenergia, PORTUGAL

Co-authors: S. M. Paixão, LNEG - Laboratório Nacional de Energia e Geologia IP, Lisboa, Portugal; L. Alves, LNEG - Laboratório Nacional de Energia e Geologia IP, Lisboa, Portugal

1AV.2.15
FERMENTATION OF MUNICIPAL SOLID WASTE TO LACTIC ACID USING LACTOBACILLUS SALIVARIUS

Tanmay CHATURVEDI, Aalborg University, Chemical Engineering, DENMARK

Co-authors: M. Thomsen, Aalborg University, Esbjerg, Denmark

1AV.2.16
FLUORINE REACTIONS IN MSW COMBUSTION

Karin SANDSTROM, Umeå University, Applied Physics and Electronics, SWEDEN

Co-authors: K. Sandström, C. Boman, M. Broström, Umeå University, Sweden; E. Weidemann, Umeå Energi, Sweden

1AV.2.17
MODIFIED SPRUCE SAWDUST FOR INDUSTRIAL LIQUID WASTE CLEANING

Dorothea POLITI, University of Piraeus, Industrial Management and Technology Dpt., GREECE

Co-author: D. Sidiras, University of Piraeus, Athens, Greece

1AV.2.22
ASH FRACTIONS FROM INCINERATION OF MUNICIPAL WASTE AND SOLID BIOFUELS AS SECONDARY RESOURCES FOR REE RECOVERY

Tuija RANTA-KORHONEN, South Eastern Finland University of Applied Sciences, Forest, the Environment and Energy Dpt., FINLAND

Co-author: H. Soininen, South Eastern Finland University of Applied Sciences, Mikkeli, Finland

15:00 - 15:15

BREAK

Visual presentations 4AV.3 | 15:15 - 16:45 | Poster area
ENVIRONMENTAL IMPACTS OF BIOENERGY
CHAIRPERSONS:

Mirjam RÖDER, Aston University, EBRI, UNITED KINGDOM

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

4AV.3.1
LIFE CYCLE ASSESSMENT OF LIGNIN GASIFICATION BASED ON THE RESULTS OF AUTHOTHERMAL PILOT PLANT TESTS

Nadia CERONE, ENEA Research Centre, Technical Unit for Trisaia Technologies, ITALY

Co-authors: L. Contuzzi, V. Fatta, F. Zimbardi, E. Viola, ENEA, Rotondella, Italy

4AV.3.7
EVALUATION OF THE VOCS EMITTED BY THE COMBUSTION OF RICE STRAW

Francesco GALLUCCI, Centro di Ricerca Ingegneria e Trasformazioni Agroalimentari, ITALY

Co-authors: E. Paris, M. Carnevale, D. Frasca, CREA-IT, Monterotondo, Italy; F. Petracchini, V. Paolini, E. Guerriero, CNR-IIA, Monterotondo, Italy; A. Khalid, PMAS-Arid Agriculture University, Shamsabad, Pakistan

4AV.3.8
CHARACTERIZATION OF EMISSIONS FROM COMBUSTION OF AGRICULTURAL WASTE: WHEAT STRAW AND RICE STRAW

Francesco GALLUCCI, Centro di Ricerca Ingegneria e Trasformazioni Agroalimentari, ITALY

Co-authors: D. Frasca, E. Paris, V. Paolini, M. Carnevale, CREA-IT, Monterotondo, Italy; A. Tonoio, MiPAAF, Roma, Italy; F. Petracchini, E. Guerriero, CNR-IIA, Monterotondo, Italy; A. Khalid, PMAS-Arid Agriculture University, Shamsabad, Pakistan

4AV.3.9
ENVIRONMENTAL IMPACT OF BIOGAS IN EUROPE

Marco SEGRETO, CNR Consiglio Nazionale delle Ricerche, Istituto sull'Inquinamento Atmosferico, ITALY

Co-authors: L. Tomassetti, M. Torre, D. Borin, P. Tratz, V. Paolini, F. Petracchini, National Research Council of Italy - Institute of Atmospheric Pollution Research, Monterotondo, Italy

4AV.3.10**SECOND-GENERATION BIODIESEL BLENDS IN AUTOMOTIVE AND IN HEATING SECTORS: AN EXPERIMENTAL FOCUS ON PRE-EURO 6 LCVS AND BOILERS EMISSIONS**

Massimiliano SIVIERO, Innovhub SSI, ITALY

Co-authors: S. Casadei, T. Rossi, S. Bertagna, C. Morreale, Innovhub-SSI, Milano, Italy

4AV.3.15**IMPACTS OF PERENNIAL BIOMASS GRASS CULTIVATION ON SPECIES DIVERSITY AND ABUNDANCE – A META-ANALYSIS**

Elena MAGENAU, University of Hohenheim, Institute of Crop Science, Biobased Products and Energy Crops, GERMANY

Co-authors: J. Lask, University of Hohenheim, Institute of Crop Science, Biobased Products and Energy Crops, University of Stuttgart, Germany; I. Lewandowski, A. Kiesel, University of Hohenheim, Institute of Crop Science, Biobased Products and Energy Crops, Stuttgart, Germany

4AV.3.18**ENVIRONMENTAL TRADE-OFFS ASSOCIATED WITH BIOENERGY FROM AGRI-RESIDUES IN SUB-TROPICAL REGIONS: A CASE STUDY OF THE COLOMBIAN COFFEE SECTOR**

Samira GARCIA FREITES, University of Manchester, Tyndall Centre for Climate Change Research - School of Mechanical Engineering, Aerospace and Civil dpt., UNITED KINGDOM

Co-authors: S. Garcia-Freites, University of Manchester, United Kingdom; M. Roeder, P. Thornley, Aston University, Birmingham, United Kingdom

4AV.3.19**PRODUCTION OF A COMBUSTIBLE FUEL PELLETT FROM THE SOLID FRACTION OF SEPARATED ANAEROBIC DIGESTATE WITH ASSOCIATED PHOSPHOROUS PARTITIONING**

Ashley CATHCART, Queen's University Belfast, Mechanical Engineering Dpt., UNITED KINGDOM

Co-authors: B. Smyth, D. Rooney, Queen's University Belfast, United Kingdom; G. Lyons, C. Johnston, Agri-Food and Bioscience Institute, Belfast, United Kingdom; C. Forbes, Letterkenny Institute of Technology, Letterkenny, Ireland

4AV.3.20**INTENSIFY PRODUCTION, TRANSFORM BIOMASS TO ENERGY AND NOVEL GOODS AND PROTECT SOILS IN EUROPE; INTENSE**

Peter SCHRÖDER, Helmholtz Zentrum München, Comparative Microbiome Analysis Dpt., GERMANY

Co-authors: A. Saebo, NIBIO, Klepp, Norway; R. Milan Gomez, CIEMAT, Madrid, Spain; M. Mench, INRA, Bordeaux, France; F. Rineau, Hasselt University, Belgium; E. Maestri, University of Parma, Italy; W. Szulc, University of Warsaw, Poland

4AV.3.22**SAMPLING OF PARTICULATE POLLUTANTS EMITTED BY BIOMASS COMBUSTION**

Kelly DUSSAN, Universidade Estadual Paulista - UNESP, Biochemical and Chemical Technology Dpt., BRAZIL

Co-authors: M.A. Martins Costa, S. G. Coelho, G.D. Alves, Kelly D. Medina, Unesp, Araraquara, Brazil

4AV.3.23**EVALUATION OF THE CONCENTRATION, SIZE DISTRIBUTION AND CHEMICAL COMPOSITION OF FINE PARTICLES EMITTED BY BIOMASS COMBUSTION**

Kelly DUSSAN MEDINA, Universidade Estadual Paulista - UNESP, Biochemical and Chemical Technology Dpt., BRAZIL

Co-authors: M. Angelica Martins Costa, H.M. Fogarin, A.A. Cardoso, A. Sarti, Unesp, Araraquara, Brazil; A.F.M. Costa, University of Toulouse Paul Sabatier, Toulouse, France; J.A.C. Junior, Unesp, Guaratinguetá, Brazil

4AV.3.25**BIOCHAR POTENTIAL AS SOIL IMPROVER ASSESSED THROUGH STRUCTURAL AND FUNCTIONAL FEATURES**

Elena MAESTRI, University of Parma, Chemistry, Life Sciences and Environmental Sustainability Dpt., ITALY

Co-authors: D. Imperiale, U. Bonas, G. Lencioni, F. Mussi, L. Paesano, M. Marmiroli, University of Parma, Italy; R. Reggiani, Azienda Agraria Sperimentale Stuard, Parma, Italy; M. Errani, CIDEA, University of Parma, Italy; N. Marmiroli, Consorzio Interuniversitario Nazionale per le Scienze Ambientali, Parma, Italy

4AV.3.29**TECHNO-ECONOMIC ASSESSMENT AND GHG BALANCE OF THE INDONESIAN PALM OIL SUPPLY PATH FOR EUROPE**

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

Co-authors: S. Kälber, L. Leible, KIT, Karlsruhe, Germany; C. Jahn, Technische Universität Hamburg, Germany; N. Mahmudah, Muhammadiyah University of Yogyakarta (UMY), Yogyakarta, Indonesia

4AV.3.30**COUPLING WATER, FIRE AND CLIMATE RESILIENCE WITH BIOMASS PRODUCTION IN FORESTRY TO ADAPT WATERSHEDS TO CLIMATE CHANGE (LIFE RESILIENT FORESTS)**

Maurizio COCCHI, ETA-Florence Renewable Energies, Bioenergy Division, ITALY

4AV.3.31**THE IMPACT OF SRC WILLOW RIPARIAN STRIPS ON REDUCING PHOSPHORUS RUNOFF IN AGRICULTURAL SYSTEMS**

David LIVINGSTONE, Queen's University Belfast, AFBI, Mechanical and Aerospace Engineering Dpt., UNITED KINGDOM

Co-authors: B. Smyth, A. Foley, S. Murray, Queen's University Belfast, United Kingdom; C. Johnston, G. Lyons, Agri-food and Biosciences Institute, Belfast, United Kingdom; M. Taggart, University of the Highlands and Islands, Inverness, United Kingdom

4AV.3.32**BIOGAS RESIDUES IN SUBSTITUTION FOR CHEMICAL FERTILIZERS**

Bella TSACHIDOU, Luxembourg Institute of Science and Technology, Environmental Research & Innovation Dpt., LUXEMBOURG

Co-authors: M. Scheuren, V. Debbaut, Université de Liège, Département des Sciences de la Vie, Faculté des Sciences, Belgium; J. Gennen, Agra-Ost, Sankt-Vith, Belgium; B. Toussaint, Au Pays de l'Attert, Attert, Belgium; C. Hissler, Luxembourg Institute of Science and Technology, Belvaux, Luxembourg; I. George, Université Libre de Bruxelles, Laboratoire d'Ecologie des Systèmes Aquatiques, Bruxelles, Belgium; P. Delfosse, University of Luxembourg, Esch-sur-Alzette, Luxembourg

4AV.3.33**COMBINATION OF GEOGRAPHICAL INFORMATION SYSTEM AND AGENT-BASED MODELLING FOR LIFECYCLE ASSESSMENT OF BIOMASS SUPPLY CHAIN**

Raghu KC, LUT Lappeenranta-Lahti University of Technology, Laboratory of Bioenergy, FINLAND

Co-authors: M. Alto, O.-J. Korpinen, T. Ranta, Lappeenranta-Lahti University of Technology, Mikkeli, Finland

4AV.3.34**LIFE CYCLE IMPACT ASSESSMENT OF INTEGRATED FOOD AND NON-FOOD PRODUCTION SYSTEMS IN ITALY AND DENMARK**

Bhim Bahadur GHALEY, University of Copenhagen, Plant and Environmental Sciences Dpt., DENMARK

Co-authors: LM Lehmann, University of Copenhagen, Taastrup, Denmark; J. Smith, The Organic Research Centre, Newbury, United Kingdom; A. Pisanelli, G. Russo, Institute of Agro-environmental and Forest Biology, Orvieto, Italy; M. Borzeka, K. Zylowska, Institute of Soil Science and Plant Cultivation – State Research Institute, Pulawy, Poland

**Visual presentations 3AV.4 | 15:15 - 16:45 | Poster area
HYDROTHERMAL CONVERSION 1****CHAIRPERSONS:****Andrea Maria RIZZO**, Renewable Energy Consortium for R&D (RE-CORD), ITALY**Steen Brummerstedt IVERSEN**, Steeper Energy, DENMARK**3AV.4.3****HYDROTHERMAL LIQUEFACTION OF VALUABLES-EXTRACTED MICROALGAE WITH HELP OF PULSED ELECTRIC FIELD TREATMENT**

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

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Co-authors: A. Silve, I. Papachristou, S. Akaberi, D. Scherer, W. Frey, U. Hornung, N. Dahmen, Karlsruhe Institute of Technology, Karlsruhe, Germany

3AV.4.4

BIOCRUDE PRODUCTION FROM HIGH ASH CONTAINING SEWAGE SLUDGE, COMPARATIVE STUDY AT SUB AND SUPERCRITICAL HYDROTHERMAL LIQUEFACTION

Ayaz Ali SHAH, Aalborg University, Energy Technology Dpt., DENMARK

Co-authors: S. S. Toor, F. C. Conti, L. R. Rosendahl, Energy Technology, AAU, Aalborg, Denmark

3AV.4.7

VALORISATION OF WASTE LIGNIN FOR PHENOL DERIVATIVE COMPOUNDS USING HYDROTHERMAL LIQUEFACTION

Hermanus MARAIS, North West University, School for Chemical and Minerals Engineering, SOUTH AFRICA

Co-authors: S. Marx, R.J. Venter, North West University, Potchefstroom, South Africa

3AV.4.9

TECHNO-ECONOMIC FEASIBILITY OF PRODUCING RENEWABLE FUELS FROM SEWAGE SLUDGE THROUGH HYDROTHERMAL LIQUEFACTION

Tahir SEEHAR, Aalborg University, Energy Technology Dpt., DENMARK

Co-authors: A.A. Shah, F.C. Conti, S.S. Toor, T.H. Pedersen, L.A. Rosendahl, Aalborg University, Denmark

3AV.4.11

THERMO-CHEMICAL CONVERSION OF LIGNIN IN A THREE-PHASE-SYSTEM

Ines AUBEL, TU Bergakademie Freiberg, Institute of Industrial Chemistry, GERMANY

Co-authors: A. Zurbel, M. Bertau, TU Bergakademie Freiberg, Germany

3AV.4.12

MODELLING OF THE INTEGRATION OF HTL WITH CCS/CCU FOR THE PRODUCTION OF DROP-IN BIO-FUELS

Eliana LOZANO, Aalborg University, Energy Technology Dpt., DENMARK

Co-authors: L.A. Rosendahl, T.H. Pedersen, Aalborg University, Denmark

3AV.4.13

AN INVESTIGATION INTO MACROMOLECULAR REACTION PATHWAYS IN THE HYDROTHERMAL TREATMENT OF MICROALGAL MODEL COMPOUNDS

Daniel J. NOWAKOWSKI, Aston University, CEAC / BERG Dpt., UNITED KINGDOM

Co-author: C.M. Thomas, Aston University, Birmingham, United Kingdom

3AV.4.14

NMR ANALYSIS AND QUANTIFICATION OF ORGANIC COMPOUNDS IN AQUEOUS SIDE STREAMS FROM THERMAL CONVERSION OF BIOMASS WITH WATER

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

Co-authors: H.V. Halleraker, C. Löhre, J. Underhaug, University of Bergen, Norway

3AV.4.15

THE EFFECT OF HYDROTHERMAL LIQUEFACTION OF BLACK LIQUOR IN BIO-OIL QUALITY

Kristian MELIN, VTT Technical Research Centre of Finland, Biotechnology and Chemical Technology Dpt., FINLAND

Co-authors: A. Välimäki, A. Oasmaa, J. Lehtonen, VTT Technical Research Centre of Finland, Espoo, Finland

3AV.4.17

THE INFLUENCE OF HYDROTHERMAL PRE-TREATMENT ON CONVERSION OF MICROALGAE BY HYDROTHERMAL LIQUEFACTION

Andrew ROSS, University of Leeds, School of Chemical & Process Engineering, UNITED KINGDOM

Co-author: I Razaq, University of Leeds, United Kingdom

3AV.4.19

BIOREFINERY PROCESS FOR HYDROTHERMAL LIQUEFACTION OF PHAEODACTYLUM TRICORNUTUM

Irene MEGIA HERVÁS, Rey Juan Carlos University, Chemical, Energy and Mechanical Technology, SPAIN

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Co-authors: F. G. Witt, AlgaEnergy S.A, Madrid, Spain; G. Vicente, L. F. Bautista, V. Morales, Rey Juan Carlos University, Móstoles, Spain; L. Moreno-Garrido, AlgaEnergy S.A, Madrid, Spain

3AV.4.22

HYDROTHERMAL CARBONIZATION OF WET BIOMASS: A NEW REACTOR DESIGN FOR CONTINUOUS LAB TESTS ON THE THREE HTC PRODUCTS

Daniele BASSO, HBI, ITALY

Co-authors: M. Pecchi, F. Patuzzi, M. Baratieri, Free University of Bolzano, Italy; R. Pavaetto, HBI, Bolzano, Italy

16:45 - 17:00

BREAK

Visual presentations 4AV.5 | 17:00 - 18:30 | Poster area

CLIMATE IMPACTS BIOENERGY

CHAIRPERSONS:

Berien ELBERSEN, Alterra, Alterra-Earth Informatics Dpt., THE NETHERLANDS

Guido REINHARDT, IFEU-Institut Heidelberg, Biomass & Food Dpt., GERMANY

4AV.5.2

ROLE OF NATIONAL FOSSIL FUEL COMPARATORS IN THE NOMINAL EMISSION SAVINGS THROUGH BIOENERGY UNDER THE RED - CASE STUDY IN SIX EU COUNTRIES

Manjola BANJA, Former Joint Research Center, Renewable and Energy Efficiency, ITALY

Co-authors: R. Sikkema, WUR/Wageningen Environmental Research, FEM Dpt., Wageningen, The Netherlands; E. Spijker, K. Szendrei, JIN Climate and Sustainability, Groningen, The Netherlands

4AV.5.4

FROM CONVENTIONAL TO RENEWABLE NATURAL GAS: CAN WE EXPECT CLIMATE BENEFITS IN THE NEAR TERM?

Rut SERRA, Natural Resources Canada, CANADA

Co-authors: J. Laganière, D. Paré, Canadian Forest Service, Québec City, Canada; B. Titus, I. Niknia, Canadian Forest Service, Victoria, Canada

4AV.5.5

DO THE NON-CO₂ CLIMATE FORCERS OFFSET THE CO₂ BENEFIT OF BIOMASS USE FOR RESIDENTIAL HEATING?

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

Co-authors: S. Cernuschi, S. Caserini, Politecnico di Milano, Civil and Environmental Engineering Dpt., Milano, Italy

4AV.5.6

CLIMATE CHANGE EFFECT ON CROPS AND BIOREFINERIES

Carla SILVA, IDL, FCIencias.ID, Engenharia Geográfica, Geofísica e Energia Dpt., PORTUGAL

Co-authors: P. M. M. Soares, IDL, Lisbon, Portugal; F. Santos, UERGS, Rio Grande, Brazil

4AV.5.7

SUGARCANE STRAW RECOVERY: POTENTIAL OF CLIMATE CHANGE MITIGATION IN BRAZIL

Nariê RINKE DIAS DE SOUZA, CTBE/CNPEM, Sustainability Dpt., BRAZIL

Co-authors: M. F. Chagas, T. A..D. Hernandez, T. L. Junqueira, A. Bonomi, M. R. L. V. Real, CTBE/CNPEM, Campinas, Brazil

4AV.5.8

RENEWABLE-DERIVED PLASTICS: AN INNOVATE GREENHOUSE GAS REMOVAL TECHNOLOGY

Pedro HARO, Universidad de Sevilla, Chemical and Environmental Engineering Dpt., SPAIN

Co-authors: C. Aracil, Universidad de Sevilla, Sevilla, Spain; J. Giuntoli, JRC, Ispra, Italy

4AV.5.9

ENVIRONMENTAL AND ECONOMIC ASSESSMENT OF CYNARA CARDUNCULUS TO LOCAL BIOENERGY PRODUCTION UNDER RAINFED CONDITIONS IN THE CONTEXT OF CLIMATE CHANGE IMPACT

Carmen LAGO RODRÍGUEZ, CIEMAT, Energy Dpt., SPAIN

Co-authors: I. Herrera, Y. Lechon, CIEMAT, Madrid, Spain; J. Sánchez, M.D. Curt, UPM, Madrid, Spain

4AV.5.10
BIOMASS, COAL AND CARBON DEBT: EXPLORING A RECENT DYNAMIC LIFECYCLE ANALYSIS OF WOOD BIOENERGY

Will ROLLS, University of Leeds, School of Earth and Environment, UNITED KINGDOM
 Co-authors: P.M. Forster, D.V. Spracklen, University of Leeds, United Kingdom

4AV.5.11
FARMC02SINK: STORAGE OF C AND GHG EMISSIONS REDUCTION AT FARM LEVEL

Alessandro AGOSTINI, ENEA Research Centre, DTE-STS Dpt., ITALY
 Co-authors: A. Ferrarini, S. Amaducci, UCSC, Piacenza, Italy; J. Giuntoli, ICCT, Washington, Usa

4AV.5.12
SPATIAL AND DYNAMIC CLIMATE IMPACT ASSESSMENT OF PERENNIAL GRASS CULTIVATION AT FIVE DIFFERENT SITES IN CENTRAL AND SOUTHERN SWEDEN

Johan NILSSON, Swedish University of Agricultural Sciences, Energy and Technology Dpt., SWEDEN
 Co-authors: P. Tidåker, K. Henryson, P.A. Hansson, Swedish University of Agricultural Sciences, Uppsala, Sweden; C. Sundberg, Swedish University of Agricultural Sciences and Swedish Royal Institute of Technology, Uppsala, Sweden

4AV.5.13
DEVELOPMENT OF NEW INDICATORS FOR IMPROVED CLIMATE CHARACTERIZATION OF BIOPLASTICS: WHEN TIMING OF EMISSIONS MATTERS

Serena FABBRI, Technical University of Denmark, DENMARK
 Co-author: M. Owsianiak, Technical University of Denmark, Kgs Lyngby, Denmark

4AV.5.18
DYNAMIC AND STATIC ASSESSMENT OF THE LIFE-CYCLE GREENHOUSE GAS EMISSIONS OF WOOD PELLETS FOR RESIDENTIAL HEATING

Rita GARCIA, ADAI, PORTUGAL
 Co-authors: P. Marques, F. Freire, ADAI, LAETA, Dep. Mechanical Engineering, University of Coimbra, Portugal

4AV.5.20
PRELIMINARY FINDINGS OF THE IPCC SPECIAL REPORT ON CLIMATE CHANGE AND LAND INTERACTIONS

Joana PORTUGAL PEREIRA, Imperial College London, UNITED KINGDOM
 Co-authors: J. Portugal-Pereira, R.V. Diemen, R. Slade, Technical Support Unit of the Working Group III, Intergovernmental Panel on Climate Change, London, United Kingdom; M. Pathak, Technical Support Unit of the Working Group III, Intergovernmental Panel on Climate Change, Ahmedabad, India

4AV.5.21
ENZYME-CATALYZED SYNTHESIS OF GLYCEROL CARBONATE FROM GLYCEROL AND CARBON DIOXIDE

In Taek HWANG, Korea Research Institute of Chemical Technology, Carbon Resources Institute, KOREA
 Co-authors: D.R. Kim, H.K. Lim, S.Y. Park, Korea Research Institute of Chemical Technology, Daejeon, Korea

Visual presentations 3AV.6 | 17:00 - 18:30 | Poster area
HYDROTHERMAL CONVERSION 2

CHAIRPERSONS:

Lasse ROSENDAHL, Aalborg University, Energy Technology Dpt., DENMARK
Sanette MARX, North-West University, School of Chemical and Minerals Engineering, SOUTH AFRICA

3AV.6.2
ASSESSING THE FEASIBILITY OF HYDROTHERMAL CARBONISATION (HTC) FOR THE TREATMENT OF AD DIGESTATE

Sarah FARTHING, University of Nottingham, UNITED KINGDOM
 Co-authors: J. McKechnie, C. Snape, University of Nottingham, United Kingdom

3AV.6.3
HYDROTHERMAL CARBONIZATION OF LIGNOCELLULOSIC AND LIPIDIC WASTES MIXTURES

Catarina NOBRE, Universidade Nova de Lisboa- Faculdade de Ciências e Tecnologia, Departamento de Ciências e Tecnologia da Biomassa, PORTUGAL
 Co-authors: M. Santos, L. Durão, M. Gonçalves, FCT-NOVA, Lisbon, Portugal

3AV.6.4
EFFECTS OF PRODUCT RECOVERY METHODS ON THE YIELDS AND PROPERTIES OF HYDROCHAR FROM HYDROTHERMAL CARBONISATION OF MICROALGAE

Sidra JABEEN, Murdoch University, School of Engineering & IT, AUSTRALIA
 Co-authors: X. Gao, M. Altarawneh, B.Z. Dlugogorski, Murdoch University, Western Australia, Australia

3AV.6.5
INFLUENCE OF HYDROTHERMAL CARBONISATION ON COMBUSTION PROPERTIES OF BIOMASS

Lynn HANSEN, Technical University of Munich, Mechanical Engineering Dpt., GERMANY
 Co-authors: S. Fendt, H. Spliethoff, Technical University of Munich, Garching, Germany

3AV.6.6
EFFECT OF WATER FORMATION ON THE REACTION ENTHALPY OF THE HYDROTHERMAL CARBONIZATION PROCESS

Matteo PECCHI, Free University of Bolzano, Science and Technology Dpt., ITALY
 Co-authors: D. Basso, F. Patuzzi, M. Baratieri, Free University of Bolzano, Italy

3AV.6.7
EVALUATION OF THE OVERALL REACTION ENTHALPY OF HYDROTHERMAL CARBONIZATION (HTC) PROCESS BY MEANS OF DIFFERENTIAL SCANNING CALORIMETRY (DSC) AT HIGH PRESSURE

Matteo PECCHI, Free University of Bolzano, Science and Technology Dpt., ITALY
 Co-authors: F. Patuzzi, M. Baratieri, Free University of Bolzano, Italy

3AV.6.9
CONVERSION OF WASTE PRODUCTS IN HIGH-QUALITY PRODUCTS VIA HYDROTHERMAL CARBONIZATION

Manuel NOWOTNY, University Oldenburg, Chemical Technology 1 Dpt., GERMANY
 Co-authors: M. Wark, T. Woriescheck, University Oldenburg, Germany

3AV.6.11
INFLUENCE OF PH ON THE COMBUSTION PROPERTIES OF BIO-COAL FROM HTC

Andrew ROSS, University of Leeds, School of Chemical & Process Engineering, UNITED KINGDOM
 Co-authors: A. Smith, University of Aarhus, Denmark; U. Ekpo, University of Leeds, United Kingdom

3AV.6.12
EXTRACTION AND RECOVERY OF PHOSPHORUS FROM BIO-SOLIDS BY MICROWAVE ENHANCED HYDROTHERMAL TREATMENT.

Andrew ROSS, University of Leeds, School of Chemical & Process Engineering, UNITED KINGDOM
 Co-author: A. Loizides, University of Leeds, Leeds, United Kingdom

3AV.6.13
HYDROTHERMAL UPGRADE OF BIO-OIL FROM THERMAL CATALYTIC REFORMING

Andreas APFELBACHER, Fraunhofer-Institut UMSICHT, Renewable Energy Dpt., GERMANY
 Co-authors: A. Hornung, N. Schmitt, J. Grunwald, R. Daschner, Fraunhofer UMSICHT, Sulzbach-Rosenberg, Germany

3AV.6.14
NOVEL PHOSPHORUS RECOVERY FROM SEWAGE SLUDGE USING SUPERCRITICAL WATER GASIFI-

CATION

Apip AMRULLAH, Hiroshima University, Mechanical Science and Engineering Dpt., JAPAN
Co-author: Y. Matsumura, Hiroshima University, Higashi-Hiroshima, Japan

3AV.6.15**HYDROTHERMAL GASIFICATION OF WET BIOMASS TO METHANE: UNDERSTANDING THE EFFECT OF ACTIVATED CARBON PORE STRUCTURE ON RU/C CATALYST PERFORMANCE.**

Christopher HUNSTON, PSI - Paul Scherrer Institut, SWITZERLAND
Co-authors: D. Baudouin, O. Kröcher, F. Vogel, PSI, Villigen, Switzerland

3AV.6.16**PRODUCTION OF BIOFUELS FROM VARIOUS LIGNOCELLULOSIC WASTE STREAMS BY LIQUEFACTION AND HYDRO-PYROLYSIS**

Regina SIU, Aston University, SEAS/EBRI Dpt., UNITED KINGDOM
Co-authors: D.J. Nowakowski, A.V. Bridgwater, Aston University, Birmingham, United Kingdom

3AV.6.20**CHARACTERISTIC COMPARISON OF BROCRUDE DERIVED FROM TWO TYPES HERBACEOUS BIOMASS THROUGH MILD ALKALI HYDROTHERMAL LIQUEFACTION**

Seong Ju KIM, Hankyong National University, Chemical Engineering Dpt., KOREA
Co-authors: G.H. Kim, B.H. Um, Hankyong National University, Anseong-si, Korea

3AV.6.21**COMPARATIVE STUDY OF LIGNIN CHARACTERISTICS FROM DIFFERENT SOURCES AND EFFECT ON THE PRODUCTIVITY OF LIGNIN-OIL BY HYDROTHERMAL LIQUEFACTION**

Ga-Hee KIM, Hankyong National University, Biomolecular and Chemical Engineering Dpt., KOREA
Co-authors: S. J. Kim, B.H. Um, Hankyong National University, Anseong-si, Korea

3AV.6.22**COMPUTATIONAL ANALYSIS OF SOLID VOLUME FRACTION AND RTD PROFILES IN A SUPER CRITICAL WATER FLUIDIZED BED GASIFIER: IMPORTANCE OF DISCRETE PHASE MODELLING**

Elyas M. MOGHADDAM, Delft University of Technology, Process and Energy Dpt., THE NETHERLANDS

3AV.6.25**SUSTAINABLE DROP-IN TRANSPORT FUELS FROM HYDROTHERMAL LIQUEFACTION OF LOW VALUE URBAN FEEDSTOCKS - THE NEXTGENROADFUELS PROJECT.**

Lasse ROSENDAHL, Aalborg University, Energy Technology Dpt., DENMARK
Co-authors: M. Cocchi, A. Grassi, Eta Florence, Florence, Italy; E. Heracleous, CERTH, Greece; I. Dallo, CENER, Spain; J. Lercher, Technical University of Munich, Germany; K. Raffelt, Karlsruhe Institute of Technology, Germany; J. Sandquist, SINTEF Energy Research, Norway; S. Verdier, Haldor Topsoe A/S, Denmark; D. Bianchi, ENI, Italy; S. Geraedts, SEANRG BV / GoodFuels, The Netherlands

Visual presentations IBV.1 | 08:30 - 10:00 | Poster area
THERMOCHEMICAL BIOMASS CONVERSION - AN INDUSTRIAL APPROACH; OPTIMISATION OF PROCESSES FOR HIGHER QUALITY PRODUCTS AND REDUCTION OF EMISSIONS

CHAIRPERSONS:

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

IBV.1.1**A FAST ABLATIVE PYROLYSIS PLANT FOR DECENTRALIZED PROCESSING OF BIOMASS INTO BIO-CHAR AND BIOOIL**

Andrey GRACHEV, Energolesprom, RUSSIAN FEDERATION
Co-authors: S.A. Zabelkin, A.A. Makarov, V.N. Bashkirov, S.A. Pushkin, G.M. Bikbulatova, S.V. Burenkov, I.G. Zemskov, A.Y. Iakovleva, EnergoLesProm, Kazan, Russian Federation

IBV.1.3**RESIDENTIAL BOILER GRADE FAST PYROLYSIS BIO-OIL**

Taina OHRA-AHO, VTT Technical Research Centre of Finland, FINLAND
Co-authors: A. Oasmaa, C. Lindfors, VTT, Espoo, Finland; B. van de Beld, E. Leijenhorst, BTG, Enschede, The Netherlands; R. Hermanns, OWI-Oel-Waerme-Institut, Herzogenrath, Germany; T. Rütten, MEKU Energie Systeme, Dauchingen, Germany

IBV.1.6**THE SUPERCRITICAL WATER GASIFICATION DEMONSTRATION EXPERIMENT RESULT DURING ONE MONTH WITH SHOCHU RESIDUE**

Yukihiko MATSUMURA, Hiroshima University, Energy and Environmental Engineering Division, JAPAN
Co-authors: Y. Wada, I. Uchiyama, D. Kobayashi, H. Tanigawa, The Chugoku Electric Power Co., Higashi-Hiroshima, Japan; T. Inoue, Fukken Co., Hiroshima, Japan; Y. Kawai, Chuden Plant, Hiroshima, Japan; T. Noguchi, Toyo Koatsu, Hiroshima, Japan

IBV.1.8**COMPRESSION RATIOS COMPARISONS BETWEEN ENGINES OPERATING WITH PRODUCER GAS**

Paolo TARTARINI, University of Modena, Dpt. of Engineering ENZO FERRARI, ITALY
Co-authors: M. Puglia, N. Morselli, G. Veratti, A. Bigi, University of Modena and Reggio Emilia, Italy; B. Kaufmann, J. Mason, All Power Labs inc., Berkeley, Usa

IBV.1.9**HOT OXYGEN ENHANCED SYNGAS REFORMING**

Brad DAMSTEDT, Praxair, USA
Co-author: L. Bool, Praxair, Tonawanda, Usa

IBV.1.10**REMOVAL OF PROCESS DISTURBING INORGANIC SUBSTANCES FROM SOFTWOOD BARK**

Andreas AVERHEIM, Valmet, Fiber Technology Center, SWEDEN
Co-authors: M. Thyrel, S. Larsson, SLU, Umeå, Sweden; O. Melander, Valmet, Sundsvall, Sweden

IBV.1.12**TORREFACTION AS A PRE-PROCESSING TECHNOLOGY FOR IMPROVING THE FINAL QUALITY OF BIOMASS DERIVED SOLID FUELS: THE EFFECTIVE REDUCTION OF CHLORINE CONTENTS IN WASTE BIOMASS**

Leonel NUNES, AFS Advanced Fuel Solutions, PORTUGAL
Co-authors: C.I.R. Meireles, C.P. Gomes, N.A. Ribeiro, University of Évora, Portugal

IBV.1.15**OPTIMIZATION OF ECONOMIZERS FOR BIOMASS COMBINED HEAT AND POWER UNITS**

Alexander GROOTJES, ECN part of TNO, THE NETHERLANDS
Co-authors: D. van der Ham, Geurts International B.V., Leiden, The Netherlands; C. van der Meijden, TBM R&D B.V., Uden, The Netherlands; M. Cieplik, ECN part of TNO, Petten, The Netherlands

IBV.1.16**DESIGNING STRATEGIC BIOMASS PROCUREMENT**

Peter RAUCH, University of Natural Resources and Life Sciences, AUSTRIA

IBV.1.17**ASH DEPOSIT BEHAVIOR ACCORDING TO VARIOUS ADDITIVE WITH DIFFERENT CHEMICAL COMPOSITION IN CO-FIRING OF BIOMASS**

Yumi PARK, Korea Institute of Industrial Technology, Yonsei University, REPUBLIC OF KOREA
Co-authors: H. Lim, T. Y. Chae, J. W. Lee, Y. W. Lee, Korea Institute of Industrial Technology, Cheonan-si, Republic of Korea; D. H. Ko, Yonsei University, Seoul, Republic of Korea

IBV.1.20**PERFORMANCE EVALUATION OF AN ELECTROSTATIC PRECIPITATOR IN A SMALL-SCALE BIOMASS BOILER BY USING DIFFERENT BIOMASS FEEDSTOCKS**

Markus GÖLLES, Bioenergy 2020+, Area 4-2: Automation and Control, AUSTRIA
Co-authors: J. Kelz, C. Zemann, D. Muschick, St. Retschitzegger, Bioenergy2020+, Graz, Austria; G. Hofmeister, KWB - Kraft und Wärme aus Biomasse, Graz, St.Margarethen/Raab, Austria

IBV.1.21**NUMERICAL SIMULATION AND EXPERIMENTAL ANALYSIS OF A NOVEL SMALL SCALE BIOMASS GRATE FIRING SYSTEM**

Andrés ANCA-COUCÉ, Graz University of Technology, Institute of Thermal Engineering, AUSTRIA
Co-authors: M. Essl, R. Mehrabian, A. Shiehnejad-Hesar, J. Kelz, S. Feldmeier, Bioenergy2020+, Graz, Austria; T. Reiterer, Schmid Energy Solutions, Lieboch, Austria; R. Scharler, Institute of Thermal Engineering, Graz University of Technology, Austria

IBV.1.22**CERAMI FOAM FILTER**

Julita BUKALSKA, Kratki.pl Marek Bal, POLAND
Co-authors: B. Piechnik, R. Kalbarczyk, Kratki.pl Marek Bal, Wsola, Poland; P. Motyl, Kazimierz Pulaski University of Technology and Humanities in Radom, Poland

IBV.1.25**DATA ANALYTICS FOR MORE EFFICIENCY IN THE BIOFUEL/-CHEMICAL INDUSTRY**

Volker HIRSCH, Siemens AG, PD PA S&V C&G 5.1, GERMANY

IBV.1.30**BIO-DIESEL PRODUCTION VIA HYDROTREATMENT OF VEGETABLE OIL OVER NI/ZEOLITE CATALYST**

Chen LUO, Petrochemical Research Institute, PetroChina Company Limited, New Energy Department, P.R. CHINA
Co-authors: J. Xue, J. Z. Li, M. X. Wang, C. Luo, J. R. Z. Petrochemical Research Institute, PetroChina Company Limited, Beijing, P.R. China

IBV.1.33**GREEN WASTE AS A NEW BIOBASED RESOURCE IN A LOCAL DECENTRAL SMALL SCALE BIOREFINERY**

Nathalie DEVRIENDT, In den Roden Schilt Consulting, Innovation Dpt., BELGIUM
Co-authors: E. Meers, UGent, Gent, Belgium; S. Claes, ReNeWi, Eeklo, Belgium; L. Gorissen, Studio Transitio, Balen, Belgium; J. Debeule, T. Anthonis, R. Dessers, ProNatura, Eeklo, Belgium

IBV.1.34**REVIEW OF DESIGN GUIDELINES FOR BIOREFINERY SEPARATION SYSTEMS**

Bernd WITTGENS, SINTEF Industry, Process Technology Dpt., NORWAY
Co-authors: T. Pettersen, O.T. Berglihn, SINTEF, Trondheim, Norway

IBV.1.35**ADVANCED PROCESS CONTROL IN BIOREFINERIES**

Volker HIRSCH, Siemens AG, PD PA S&V C&G 5.1, GERMANY
Co-authors: O. Lorenz, Siemens AG, Karlsruhe, GERMANY

IBV.1.37**ALKALINE LACCASES FOR LIGNIN VALORISATION**

Joana ANTUNES, MetGen, FINLAND
Co-authors: P. Ihalainen, A. Suonpää, N. Sarveson, T. Levée, V. Hämäläinen, B. Romein, M.W. Heikkilä, T. Grönroos, K.R. Birikh, MetGen, Kaarina, Finland

Visual presentations 3BV.2 | 08:30 - 10:00 | Poster area**THERMALLY TREATED BIOMASS - FROM PRODUCTION TO ENERGY AND MATERIAL APPLICATIONS****CHAIRPERSONS:**

Capucine DUPONT, The Delft Institute for Water Education, THE NETHERLANDS
Invited

3BV.2.1**PRODUCTION AND CHARACTERIZATION OF BIOCHAR FROM SPRUCE WOOD AND BARK UNDER DIFFERENT PYROLYSIS CONDITIONS**

Liang WANG, SINTEF Energy Research, Thermal Energy Dpt., NORWAY
Co-authors: M. Olsen, Ø. Skreiberg, SINTEF Energy Research, Trondheim, Norway; A. Budai, D. Rasse, Norwegian Institute of Bioeconomy Research, Oslo, Norway

3BV.2.3**TORREFACTION FOR ENHANCING THE HEATING VALUE OF BARLEY STRAW.**

Dimitrios SIDIRAS, University of Piraeus, Industrial Management and Technology Dpt., GREECE
Co-author: A. Nazos, University of Piraeus, Greece

3BV.2.4**SOLID FUELS PRODUCTION FROM FORESTRY WASTES USING SLOW PYROLYSIS**

Marta MARTINS, CERENA, Instituto Superior Técnico, Universidade de Lisboa, Chemical Engineering Dpt., PORTUGAL
Co-authors: M.A. Lemos, F. Lemos, CERENA, Instituto Superior Técnico, Universidade de Lisboa, Portugal; H. Pereira, Centro de Estudos Florestais, Instituto Superior de Agronomia, Universidade de Lisboa, Portugal

3BV.2.5**OPTIMIZATION OF REACTION PARAMETERS IN HTC OF OLIVE PRUNING FOR SOLID FUEL GENERATION**

Judith GONZÁLEZ ARIAS, Universidad de León, SPAIN
Co-authors: J. González, R. Mateos, J.G. Rosas, M.E. Sánchez, J. Cara-Jiménez, University of León, Spain

3BV.2.7**COMPREHENSIVE STUDY OF ORGANIC BIO-WASTE TORREFACTION PROCESS TO OBTAIN CONDITIONED FUEL PRODUCT**

Olga LARINA, Joint Institute for High Temperatures of the Russian Academy of Sciences, RUSSIAN FEDERATION
Co-authors: Ya. Pudova, V. Zaichenko, Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russian Federation

3BV.2.8**ASSESSMENT OF EFFICIENCY AND OPERATING OPTIMIZATION OF BIOMASS TORREFACTION UNIT. SOLUTION FOR EXOTHERMIC EFFECT USING**

George SYTCHEV, Joint Institute for High Temperatures RAS, Laboratory of Distributed Energy Generation, RUSSIAN FEDERATION
Co-authors: A.L. Shevchenko, V.M. Zaichenko, JIHT RAS, Moscow, Russian Federation

3BV.2.10**TECHNO-ECONOMIC ASSESSMENT OF BIO-COAL PRODUCTION THROUGH WET AND DRY TORREFACTION PROCESSES OF DIFFERENT BIOMASS FEEDSTOCKS**

Maryam AKBARI, University of Alberta, Mechanical Engineering Dpt., CANADA
Co-authors: A. O. Oyedun, A. Kumar, University of Alberta, Edmonton, Canada

3BV.2.13**PERFORMANCE OF A COMPOST AND BIOCHAR PACKED BIOFILTER FOR H2S REMOVAL**

Capucine DUPONT, The Delft Institute for Water Education, THE NETHERLANDS
Co-authors: J. Das, Bangladesh Council of Scientific and Industrial Research (BCSIR), Chittagong, Bangladesh; E.R. René, E.D. van Hullebusch, IHE Delft, The Netherlands; A. Dufourny, J. Blin, CIRAD, Montpellier, France

3BV.2.14**TORREFACTION OF CORN RESIDUES USING SUPERHEATED STEAM FOR BIOFUEL BIO-FERTILIZER AND ACTIVE CARBON PRODUCTION**

Szymon SZUFA, Lodz University of Technology, Department of Environmental Engineering, Poland
Co-authors: Ł. Adrian, Eko-Look, Sieradz, Poland; P. Piersa, APS-EkoInnowacje, Lodz, Poland; Z. Romanowska-Duda, University of Lodz, Poland; M. Marczak, AGH University of Science and Technology, Krakow, Poland; J. Ratajczyk-Szufa, Biomass Training Research, Opole, Poland

3BV.2.15**CUSTOMIZING BIOMASS AS REDUCING AGENT IN BLAST FURNACE STEELMAKING - PRELIMINARY RESULTS**

Christoph STRASSER, Bioenergy 2020+, AUSTRIA
Co-authors: N. Kienzl, S. Martini, R. Deutsch, Bioenergy2020+, Graz, Austria; C. DiBauer, Bioenergy2020+, Wieselburg-Land, Austria

3BV.2.18**ON THE DRYING BEHAVIOUR OF HYDROTHERMALLY-CARBONISED PULP AND PAPER INDUSTRY BIO-SLUDGE IN A BENCH-SCALE CYCLONE DRYER**

David A. AGAR, Swedish University of Agricultural Sciences, Forest Biomaterials and Technology Dpt., SWEDEN
Co-authors: S. H. Larsson, Swedish University of Agricultural Sciences, Umeå, Sweden; G. Wang, Engineering University of Science & Technology, Beijing, P.R. China

3BV.2.17**BIOCHAR FROM BIOGENIC RESIDUES AND WASTE: A TECHNO-ECONOMIC ASSESSMENT OF CARBONIZATION TECHNOLOGIES**

Tobias DOMNIK, Karlsruhe Institute of Technology, Institute for Technology Assessment and System Analysis, GERMANY
Co-authors: S. Kälber, L. Leible, Karlsruhe Institute of Technology, Karlsruhe, GERMANY

3BV.2.19**ACID HYDROLYSIS PRETREATED RECYCLED MEDICAL COTTON WASTE AS HEATING ENERGY MATERIAL**

George GIAKOU MAKIS, University Piraeus, Research Center, Industrial Management and Technology Dpt., GREECE
Co-author: D. Sidiras, University of Piraeus, Greece

3BV.2.20**A SOLAR - DRIVEN THERMOCHEMICAL PROCESS FOR THE PRODUCTION OF BIOFUEL: PROCESS ENERGY DEMAND CALCULATOR**

Toby GREEN, University of Leeds, School of Process and Chemical Engineering, UNITED KINGDOM
Co-authors: R. Crook, A. Ross, University of Leeds, United Kingdom

Visual presentations 5BV.3 | 13:30 - 15:00 | Poster area**MARKETS FOR BIOMASS IN BIOMASS HEATING AND PRODUCTION. GRID BALANCING****CHAIRPERSONS:**

Antti ARASTO, VTT Technical Research Centre of Finland, FINLAND

Invited

5BV.3.1**MAGIC PROJECT CONDITIONS FOR ECONOMIC VIABILITY OF SWITCHGRASS CULTIVATION IN MARGINAL LAND: CAN THE MARKET BE SUSTAINABLY SUPPLIED BY PROFIT MAKING FARMERS?**

Efthymia ALEXOPOULOU, CRES - Center for Renewable Energy Sources and Saving, Biomass Dpt., GREECE
Co-authors: P. Soldatos, G. Papadakis, AUA, Athens, Greece; G. Eleftheriadis, CRES, Athens, Greece

5BV.3.2**UPGRADING EXISTING DISTRICT HEATING GRIDS WITH BIOMASS AND OTHER RETROFITTING OPTIONS**

Dominik RUTZ, WIP Renewable Energies, Unit Bioenergy & Bioeconomy, GERMANY
Co-authors: R. Janssen, C. Khawaja, R. Mergner, WIP Renewable Energies, Munich, Germany

5BV.3.3**TWO PREVIOUS MARKETS OF BIOENERGY, AND NEW APPROACH AS THIRD WAY IN JAPAN**

Kohei IZUTSU, Sonraku Inc., JAPAN

5BV.3.6**DEVELOPMENT OF A REGIONAL BIOMASS PLANT INVENTORY AND INTEGRATION WITH TRANSPORTATION INFRASTRUCTURE IN LATIUM, CENTRAL ITALY**

Marco SEGRETO, Consiglio Nazionale delle Ricerche, Istituto sull'Inquinamento Atmosferico, ITALY
Co-authors: M. Torre, L. Tomassetti, A. Palma, D. Borin, V. Paolini, F. Petracchini, National Research Council of Italy - Institute of Atmospheric Pollution Research, Monterotondo, Italy

5BV.3.9**MODEL AND LABORATORY BASED ANALYSIS OF A FLEXIBLE FEEDING OF BIOGAS PLANTS**

Lena PETERS, University of Applied Sciences Emden/Leer, GERMANY
Co-authors: P. Biernacki, F. Uhlenhut, S. Steinigeweg, University of Applied Sciences Emden /Leer, Emden, Germany

5BV.3.10**COMPETITIVE BIOMASS KEY APPLICATIONS TO FULFILL CLIMATE TARGETS IN THE GERMAN HEAT SECTOR: FINDINGS FROM OPTIMIZATION MODELLING**

Matthias JORDAN, Helmholtz Centre for Environmental Research - UFZ, Bioenergy, GERMANY
Co-authors: V. Lenz, K. Oehmichen, Deutsches Biomasseforschungszentrum gemeinnützige - DBFZ, Leipzig, Germany; M. Millinger, D. Thrän, Helmholtz-Centre for Environmental Research - UFZ, Leipzig, Germany

5BV.3.12**ANALYSIS ON THE COUPLING OF BIOMASS GASIFICATION PROCESSES WITH A PARABOLIC TROUGH CONCENTRATING SOLAR PLANT**

Francesco GALLUCCI, CREA-IT, ITALY
Co-authors: R. Liberatore, ENEA, Roma, Italy; L. Sapegno, E. Volponi, P. Venturini, F. Rispoli, DIMA-University of Rome "La Sapienza", Italy; E. Paris, D. Frasca, CREA-IT, Monterotondo, Italy

5BV.3.13**STORING RENEWABLE ENERGY BY BIOGAS UPGRADING**

Sebastian VILLADSEN, Technical University of Denmark, DENMARK
Co-authors: P. L. Fosbøl, P. Møller, Technical University of Denmark, Kgs. Lyngby, Denmark; J. P. Rasmussen, Elplatek, Horsens, Denmark; A. Rønne, GreenHydrogen.dk, Kolding, Denmark; J. C. G. Svendsen, Nature Energy, Odense, Denmark

5BV.3.14**ISLAND-GRID STUDY HAMBURG-WILHELMSBURG**

Alexa LUTZENBERGER, ALRENE, GERMANY
Co-author: S. Peter, ALRENE, Siek, Germany

5BV.3.16**METHANE REFORMING AND WATER ELECTROLYSIS SYSTEM INTEGRATED IN A DME SYNTHESIS PLANT FROM BIOMASS BASED ON SORPTION-ENHANCED TECHNOLOGIES**

Giulio GUANDALINI, Politecnico di Milano, Energy, ITALY
Co-authors: A. Poluzzi, M.C. Romano, Politecnico di Milano, Italy

5BV.3.17**ASSESSMENTS OF A COMPLETE C-RECOVERY BIOGAS PLANT VIA UPGRADING AND CO₂ METHANATION**

Marta GANDIGLIO, Politecnico di Torino, Energy Dept., ITALY
Co-authors: E. Giglio, M. Cavana, D. Ferrero, P. Marocco, Politecnico di Torino, Italy

5BV.3.18**ASH MANAGEMENT AT BIOMASS HEATING PLANTS IN SOUTHERN GERMANY**

Hans BACHMAIER, Technology & Support Centre in the Centre of Excellence for Renewable Resources, Solid Biofuels Dpt., GERMANY
Co-authors: D. Kuptz, H. Hartmann, TFZ, Straubing and Support Centre in the Centre of Excellence for Renewable Resources, Germany

5BV.3.19**TOMATO GENETIC VARIANTS FOR PEEL COLOR, A SOURCE OF BIOCOMPOUNDS AND BIOMASS FOR ENERGY RECOVERY**

Enrico SANTANGELO, CREA, Research Centre for Engineering and Agro-Food Processing, ITALY
Co-authors: M. Carnevale, F. Gallucci, CREA Research Centre for Engineering and Agro-Food Processing, Monterotondo, Italy; C.A. Migliori, CREA Research Centre for Engineering and Agro-Food Processing, Torino, Italy; A. Mazzucato, M. Picarella, G. Dono, University of Tuscia, Dept. of Agricultural and Forestry Sciences, Viterbo, Italy

5BV.3.21**VALORIZATION OF BRAZILIAN'S AGRIBUSINESS RESIDUES: ESTABLISHING A CIRCULAR VALUE CHAIN VIA THE PRODUCTION OF BIOCHAR**

Genyr KAPPLER, Unisinos, BRAZIL
Co-authors: C.A.M. Moraes, D.M. de Souza, R.C.E. Modolo, F.A. Brehm, A. Cúria, University of Vale do Rio dos Sinos, São Leopoldo, Brazil; L.A. da C. Tarelho, University of Aveiro, Portugal

5BV.3.22**PROCESS INTEGRATION STUDY AT A BIOMASS BASED INDUSTRIAL SITE**

Cristina FERNANDES, Instituto Superior Tecnico, DEQ, PORTUGAL
Co-authors: C. Pedro Nunes, M.R Ismael, J.P. Marques, CERENA/DEQ, Lisboa, Portugal

5BV.3.23**EUBCE Student Awardee Presentation****TECHNICAL-ECONOMIC-ENVIRONMENTAL ASSESSMENT OF BIOETHANOL PRODUCTION FROM WASTE BIOMASSES**

Francesca DEMICHELI, Politecnico di Torino, DIATI Dpt., ITALY
Co-authors: S. Fiore, M. Laghezza, Politecnico di Torino, Italy

5BV.3.24**THE ROLE OF BIOMASS IN A LOW-CARBON ECONOMY IN THE NETHERLANDS**

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

5BV.3.25**ADSORPTION OF CONTAMINANTS FROM AQUEOUS SOLUTION BY CASHEW NUT SHELL**

Karine FONSECA SOARES DE OLIVEIRA, Federal University of Rio Grande do Norte, Material Eng. Dpt., BRAZIL
Co-authors: K. F. S. de Oliveira, R. M. Braga, M. A.F. Melo, D. M. A. Melo, R. R. de Oliveira, J. E. da Silva, Federal University of Rio Grande do Norte, Natal, Brazil

5BV.3.26**REGULATION STRATEGY OF POWER DRIVEN SOLID BIOMASS CHP PLANTS IN FLEXIBLE DISTRICT HEATING**

Katharina KOCH, Technical University of Munich, Associate Professorship of Regenerative Energy Systems, GERMANY
Co-author: M. Gaderer, Technical University of Munich, Straubing, Germany

5BV.3.29**OPTIMIZATION OF THE ACTIVATED CARBONS SYNTHESIS OF PEANUT SHELLS, APPLYING SURFACE METHODOLOGY**

Ioana IONEL, Politehnica University of Timisoara, Mechanical Engineering Dpt., ROMANIA
Co-authors: R.F. Tagne Tiegam, S.G. Anagho, University of Dschang, Cameroon; A. Negrea, Politehnica University of Timisoara, Romania

5BV.3.30**BIOGAS PRODUCTION FOR TRANSPORT FUEL - IMPROVING MANURE HANDLING IN LUGA DISTRICT, RUSSIA**

Tuija RANTA-KORHONEN, South Eastern Finland University of Applied Sciences, Forest, the Environment and Energy Dpt., FINLAND
Co-author: H. Soininen, South Eastern Finland University of Applied Sciences, Mikkeli, Finland

5BV.3.31**DIGIFOREST: TOWARDS FUTURE DIGITAL FOREST APPLICATIONS BY MEANS OF A SEMINAR AND AN INNOVATION WORKSHOP**

Sinikka MYNTTINEN, South-Eastern University of Applied Sciences, R&D Dpt., FINLAND
Co-author: T. Partala, South-Eastern University of Applied Sciences, Mikkeli, Finland

5BV.3.33**BIOCHAR, SUITABLE BIOFILTER MATERIAL TO REMOVE HYDROGEN SULFIDE FROM BIOGAS**

Niina LAURILA, South-Eastern Finland University of Applied Sciences, FINLAND
Co-authors: T. Saario, H. Soininen, J. Heinimö, South-Eastern Finland University of Applied Sciences, Mikkeli, Finland

5BV.3.34**COMPARING STRATEGIES OF BIOGAS ENERGY USE: ELECTRICITY GENERATION VERSUS BIOMETHANE PRODUCTION**

Suani COELHO, University of São Paulo, Institute of Energy and Environment, BRAZIL
Co-authors: D. Percin, University of São Paulo, São Paulo, Brazil

Visual presentations 2BV.4 | 13:30 - 15:00 | Poster Area**COMBUSTION, CHP AND EMISSION CONTROL TECHNOLOGIES FROM SMALL TO LARGE SCALE SYSTEMS****CHAIRPERSONS:**

Neuza ALVES, Centro de Biomassa para a Energia, LEBS, PORTUGAL
Marco BARATIERI, Free University of Bolzano, Faculty of Science and Technology, ITALY

2BV.4.2**INVESTIGATION OF THE INFLUENCE OF FUEL CHARACTERISTICS ON BIOMASS COMBUSTION IN REAL AND LABORATORY CONDITIONS**

Branislav REPIC, Institute of Nuclear Sciences Vinca, Laboratory of Thermal Engineering and Energy, SERBIA
Co-authors: A. Eric, A. Marinkovic, S. Nemoda, M. Mladenovic, Vinca Institute of Nuclear Sciences, Belgrade, Serbia

2BV.4.3**QUALITY ASSESSMENT OF WOOD PELLETS FOR RESIDENTIAL HEATING SYSTEMS AND COMBUSTION BEHAVIOR AN A PELLET STOVE**

Claudia SCHÖN, Technology and Support Centre, Solid Biofuels Dpt., GERMANY
Co-authors: R. Mack, H. Hartmann, TFZ, Straubing, Germany

2BV.4.4**CONTAMINATION OF WOOD PELLETS WITH SELECTED MINERAL SOILS - FUEL QUALITY AND COMBUSTION BEHAVIOUR**

Carina KUCHLER, Technology and Support Centre, Solid Biofuels Dpt., GERMANY
Co-authors: D. Kuptz, E. Rist, R. Mack, C. Schoen, H. Hartmann, Technology and Support Centre (TFZ), Straubing, Germany; D. Zimmermann, E. Dietz, M. Riebler, U. Blum, H. Borchert, Bavarian State Ministry of Food, Agriculture and Forestry, Freising, Germany

2BV.4.5**INTEGRATING PCM-BASED THERMAL ENERGY STORAGE ON TOP OF WOOD STOVES: CONCEPT AND CFD MODELLING**

Øyvind SKREIBERG, SINTEF Energy Research, Thermal Energy Dpt., NORWAY
Co-authors: A. Sevault, SINTEF Energy Research, Trondheim, Norway; H. Hvål Mathisen, NTNU, E. Næss, NTNU, Trondheim, Norway

2BV.4.6**DECENTRALIZED POWER PRODUCTION FROM HETEROGENOUS BIOMASS TYPES APPLYING THE INVERSE BRAYTON CYCLE (IBC)**

Marcel PFEIL, Technical University Mittelhessen, GERMANY
Co-authors: S. Pohl, D. Denfeld, J. Hoehl, Technical University Mittelhessen, Giessen, Germany

2BV.4.7**STATISTICAL ANALYSIS OF VEGETABLES OILS COMBUSTION IN A LOW-PRESSURE AUXILIARY AIR FLUID PULVERIZATION BURNER, IN ORDER TO ESTABLISH OPTIMAL OPERATING CONDITIONS.**

María Ascensión SANZ-TEJEDOR, University of Valladolid, Organic Chemistry Dpt., SPAIN
Co-authors: Y. Arroyo, J. San-José, R. Mata, University of Valladolid, Spain

2BV.4.8**INVESTIGATIONS ON COMBUSTION AIR PRE-HEATING IN SMALL SCALE BIOMASS HEATING UNITS**

Esther STAHL, Fraunhofer-Institut UMSICHT, Process Technology Dpt., GERMANY
Co-authors: G. Pollmeier, Polzenith, Schloß Holte-Stukenbrock, Germany; P. Danz, Fraunhofer UMSICHT, Oberhausen, Germany; F. Bambauer, S. Wirtz, V. Scherer, Ruhr-University Bochum LEAT, Bochum, Germany

2BV.4.9**THE IMPACT OF VARIABILITY ON REPEATABILITY IN DOMESTIC COMBUSTION STOVE TESTING AND CONFIDENCE IN EMISSION FACTOR RESULTS**

Andrew PRICE-ALLISON, University of Leeds, School of Chemical and Process Engineering, UNITED KINGDOM
Co-authors: P.E. Mason, J.M. Jones, D.V. Spracklen, A. Williams, University of Leeds, United Kingdom

2BV.4.10**TECHNOLOGY MAPPING OF MARKET-AVAILABLE SMALL-SCALE COMBUSTION APPLIANCES**

Sabine FELDMEIERS, Bioenergy 2020+, AUSTRIA
Co-authors: E. Wopienka, M. Schwarz, Bioenergy 2020+, Wieselburg, Austria; C. Pfeifer, University of Natural Resources and Life Sciences, Vienna, Austria

2BV.4.12**EMISSIONS REDUCTION IN A HOUSEHOLD BIOMASS COOK STOVE WITH A SIMPLE MODIFICATION**

Andrés ANCA-COUCÉ, Graz University of Technology, Institute of Thermal Engineering, AUSTRIA
Co-authors: G. Archan, M. Blehrmühlhuber, J. Gregorc, P. García-Ramos, R. Scharler, Graz University of Technology, Graz, Austria; N. Muhumuza, Awamu Biomass Energy Ltd, Kampala, Uganda; C. Rakos, proPellets Austria, Wolfsgraben, Austria; P. Anderson, TLUD, Junto Energy Solutions NFP, Normal, Usa

2BV.4.14**EMISSION CHARACTERISTICS OF DIFFERENT FOLIAGE FRACTIONS**

Esther STAHL, Fraunhofer-Institut UMSICHT, Process Technology Dpt., GERMANY
Co-authors: F. L. Bernal Arias, P. Danz, Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT, Oberhausen, Germany

2BV.4.15**ASSESSMENT OF NOX REDUCTION POTENTIAL IN WOOD STOVES**

Øyvind SKREIBERG, SINTEF Energy Research, Thermal Energy Dpt., NORWAY
Co-authors: M. Bugge, N. E. L. Haugen, SINTEF Energy Research, Trondheim, Norway; T. Li, Norwegian University of Science and Technology, Trondheim, Norway

2BV.4.16**EVALUATION OF A BROAD RANGE OF SOLID BIOMASS FUELS WITH A NEWLY DEVELOPED ADVANCED FUEL DATABASE AS A BASIS FOR FUEL FLEXIBLE RESIDENTIAL BIOMASS HEATING**

Thomas BRUNNER, Bios Bioenergiesysteme, AUSTRIA
Co-authors: G. Thek, I. Obernberger, W. Kanzián, Bios Bioenergiesysteme, Graz, Austria; M. Fernández Llorente, CEDER-CIEMAT - Research Centre for Energy, Technology and Environment, Soria, Spain; J. Carrasco, CEDER-CIEMAT - Research Centre for Energy, Technology and Environment, Soria, Austria

2BV.4.17**A CFD-METHOD FOR THE ANALYSIS AND OPTIMIZATION OF THE FIXED BED CONVERSION IN BIOMASS GRATE FURNACES**

Andrés ANCA-COUCÉ, Graz University of Technology, Institute of Thermal Engineering, AUSTRIA
Co-authors: M. Singer, T. Gruber, R. Mehrabian Bardar, Bioenergy 2020+, Graz, Austria; R. Scharler, Graz University of Technology, Austria

2BV.4.18**ENERGETICALLY SELF-SUFFICIENCY WITH HEAT ON BASIS OF WOOD CHIPS FROM SRC - FROM CONCEPTION TO REALIZATION OF A 500 KW BIOMASS HEATING PLANT AT THE ATB**

Ralf PECENKA, Leibniz Institute for Agricultural Engineering and Bioeconomy, Post Harvest Dpt., GERMANY
Co-authors: H. Lenz, C. Idler, H. Spikermann, T. Hoffmann, ATB, Potsdam, Germany

2BV.4.20**CONTROL OF PARTICLE EMISSIONS FROM SMALL SCALE WOOD COMBUSTION FACILITIES**

Andrei BOLOGA, KIT - Karlsruhe Institute of Technology, Institute for Technical Chemistry, GERMANY
Co-authors: H.-P. Rheinheimer, CCA-Carola Clean Air, Eggenstein-Leopoldshafen, Germany; K. Woletz, H.-R. Paur, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany

2BV.4.21**MONITORING OF NOX EMISSION DEPENDING ON WOOD CHIP QUALITY IN A MEDIUM SIZED BIOMASS COMBUSTION PLANT**

Claudia SCHÖN, Technology and Support Centre, Solid Biofuels Dpt., GERMANY
Co-authors: P. Rossmann, H. Hartmann, TFZ, Straubing, Germany; G. Schmoedel, LFU, Augsburg, Germany

2BV.4.22**REDUCING EXHAUST EMISSIONS IN SMALL GASOLINE ENGINES USING BIOFUELS: A CASE STUDY OF AN OFF-ROAD VEHICLE DESIGN FOR COLLEGIATE COMPETITIONS**

Gregory DAVIS, Kettering University, Mechanical Engineering Dpt., USA
Co-author: A. Mazzei, Kettering University, Flint, Usa

2BV.4.23**CFD AND BUILDING INTEGRATION MODELLING OF WOOD STOVES - STATUS AND FURTHER NEEDS**

Øyvind SKREIBERG, SINTEF Energy Research, Thermal Energy Dpt., NORWAY
Co-authors: N. E. L. Haugen, M. Bugge, SINTEF Energy Research, Trondheim, Norway; L. Georges, Norwegian University of Science and Technology, Trondheim, Norway

2BV.4.26**SET-UP OF A NEW SAMPLING METHOD TO MEASURE CONDENSABLE PM FROM RESIDENTIAL SOLID BIOMASS HEATING GENERATORS**

Francesca HUGONY, ENEA Research Centre, ITALY
Co-authors: C. Morreale, Innovhub-SSI, S. Donato Milanese, Italy; G. Migliavacca, Innovhub-SSI, MS. Donato Milanese, Italy; M. Gualtieri, ENEA, Bologna, Italy; S. Tamburrino, ENEA, Portici, Italy

2BV.4.27**MODELING THE COMBUSTION OF DIFFERENT BIOMASSES IN A 200 KW PULVERISED FUEL TEST RIG**

Thorben DE RIESE, Technical University of Munich, Chair of Energy Systems, GERMANY
Co-authors: S. DeYoung, R. Nowak Delgado, S. Fendt, H. Spliethoff, Technical University of Munich, Germany; N. Niemelä, Tampere University of Technology, Finland

2BV.4.28**SUSTAINABLE BIOFUELS IN TRANSPORT AND AVIATION - AN OVERVIEW**

Sandra RICHTER, German Aerospace Center, GERMANY
Co-authors: M. Braun-Unkhoff, C. Naumann, U. Riedel, DLR - German Aerospace Center, Stuttgart, Germany

2BV.4.32**HIGH EFFICIENT HEAT EXTRACTION FROM BIOMASS HEATING PLANTS BY AN INNOVATIVE INTEGRATION OF HEAT PUMPS IN FLUE GAS CONDENSATION**

Philipp STANDL, Technical University of Munich, GERMANY

2BV.4.35**MODELING PYROLYSIS KINETICS FOR BIOMASS PARTICLES OF DIFFERENT MORPHOLOGIES RELEVANT FOR SUSPENSION FIRING CONDITIONS**

Anna LETH-ESPENSEN, Technical University of Denmark, Chemical and Biochemical Engineering Dpt., DENMARK
Co-authors: T. Li, T. Lovås, Norwegian University of Science and Technology, Trondheim, Norway; P. Glarborg, P.A. Jensen, Technical University of Denmark, Kgs. Lyngby, Denmark

2BV.4.39**DEVELOPMENT OF BIOMASS GRINDABILITY INDEX**

Sylwester KALISZ, Silesian University of Technology, Institute of Power Engineering and Turbomachinery, POLAND

Co-authors: M. Tymoszuk, K. Mroczek, Silesian University of Technology, Gliwice, Poland; A. Mack, J. Maier, University of Stuttgart, Germany

2BV.4.40**INTERCHANGEABILITY ANALYSIS OF BIOGAS AND HYDROGEN BLENDS**

Filipe QUINTINO, Instituto Superior Técnico, Mechanical Engineering Dpt., PORTUGAL

Co-authors: E.C. Fernandes, Instituto Superior Técnico, Lisbon, PORTUGAL

2BV.4.42**CFD DEPOSITION MODELING OF FLY ASH PARTICLES ON BIOMASS FIRED BOILERS**

Miguel DÍAZ-TROYANO, University of Cadiz, Mechanical Engineering and Industrial Design Dpt., SPAIN

Co-authors: Y. Chungen, Aalborg University, Denmark; A. Gamez, Cadiz University, Spain

2BV.4.43**GASEOUS EMISSIONS AND SOLID PARTICLES FROM THE COMBUSTION OF BIOMASS PELLETS IN 25 KW AUTOMATIC BOILER**

Patrik ELBL, Technical University Brno, CZECH REPUBLIC

Co-authors: M. Baláš, P. Vavříková, M. Lisý, P. Milčák, University of Technology, Brno, Czech Republic

2BV.4.44**INVESTIGATION OF THE COMBUSTION ENVIRONMENT GENERATED FROM COMBINED BIOMASS FUEL CATEGORIES**

Toyin SANUSI, Cranfield University, Energy Dpt., UNITED KINGDOM

Co-authors: J. Sumner, N.J. Simms, Cranfield University, United Kingdom

2BV.4.45**MONITORING AND MANAGEMENT OF THE EMISSIONS FROM ENERGY PRODUCTION**

Niina LAURILA, South-Eastern Finland University of Applied Sciences, FINLAND

Co-authors: S. Thil, H. Soininen, South-Eastern Finland University of Applied Sciences, Mikkeli, Finland

2BV.4.46**THE EFFECT OF ADDING ETHANOL ON THE IGNITION PROPERTIES OF FAST PYROLYSIS BIO OILS**

Patrizio MASSOLI, CNR - Istituto Motori, ITALY

Co-authors: R. Calabria, F. Chiariello, Istituto Motori, CNR, National Research Council of Italy, Naples, Italy; B. van de Beld, BTG Biomass Technology Group B.V, Enschede, The Netherlands; A. Frassoldati, Politecnico di Milano, Milan, Italy; R.T.E. Hermanns, OWI Oel-Waerme-Institut, Aachen, Germany; A. Oasmaa, VTT Technical Research Centre of Finland Ltd., Espoo, Finland; A. Toussaint, BTG BioLiquids B.V., Enschede, The Netherlands

2BV.4.47**OPTIMIZATION POTENTIAL OF BIOGAS PLANTS FOR BIOWASTE**

Anna FRITZSCHE, University of Stuttgart, ISWA Dpt., GERMANY

Co-authors: C. Maurer, M. Kranert, University of Stuttgart, Germany

15:00 - 15:15

BREAK

**Visual presentations 3BV.5 | 15:15 - 16:45 | Poster Area
FUNDAMENTAL AND APPLIED PYROLYSIS 1****CHAIRPERSONS:**

Andrés ANCA-COUCÉ, Graz University of Technology, Institute of Thermal Engineering, AUSTRIA

Wim VAN SWAAIJ, University of Twente, Faculty of Science and Technology, THE NETHERLANDS

3BV.5.3**PYROLYSIS OF LIGNIN: EFFECTS OF MOLECULAR WEIGHT AND BOND TYPE**

Sascha KERSTEN, University of Twente, TNW Dpt., THE NETHERLANDS

Co-authors: P.S. Marathe, R.J.M. Westerhof, University of Twente, Enschede, The Netherlands

3BV.5.6**E4BIOFRAME: EXTRA ENERGY EFFICIENT EXPLOITATION OF BIOMASS FOR FUELS, RUBBER, ASPHALT, MATERIALS AND ENERGY**

Paul DE WILD, ECN part of TNO, Biomass & Energy Efficiency Dpt., THE NETHERLANDS

Co-authors: S. Grootjes, R. van der Laan, H. Bodenstaff, C. van der Meijden, J. van Hal, J. Kiel, ECN part of TNO, Petten, The Netherlands

3BV.5.8**CATALYTIC HYDRODEOXYGENATION OF BIOMASS-DERIVED MODEL COMPOUNDS USING RUTHENIUM CATALYSTS ON ACID-MODIFIED TITANIA**

Dong Jin SUH, Korea Institute of Science and Technology, Clean Energy Research Center, KOREA

Co-authors: A. A. Dwiatmoko, I. Kim, J.-W. Choi, J.-M. Ha, Korea Institute of Science and Technology, Seoul, Korea; L. Zhou, Zhengzhou University, P.R. China

3BV.5.12**CATALYTIC PYROLYSIS OF PINEWOOD OVER ZSM-5 AND CAO FOR AROMATIC HYDROCARBON: ANALYTICAL PY-GC/MS STUDY**

Ronghou LIU, Shanghai JiaoTong University, School of Agriculture and Biology, P.R. CHINA

Co-authors: M. Rahman, M. Chai, M. Sarker, N. Nishu, Shanghai Jiao Tong University, P.R. China

3BV.5.13**ENVIRONMENTAL APPLICATION OF POLYMER/BIOMASS-DERIVED BIOCHAR**

Seok-Young OH, University of Ulsan, Department of Civil and Environmental Engineering, KOREA

Co-authors: Y.D. Seo, University of Ulsan, Korea; J.-I. Sohn, University of Ulsan, Korea

3BV.5.14**BEHAVIORS OF OIL PRODUCED FROM PYROLYSIS OF SPENT COFFEE GROUNDS IN SUPERCRITICAL ETHANOL**

Ji-Yeon PARK, Korea Institute of Energy Research, KOREA

Co-authors: A. Kanak, W. Jeon, J.-H. Lee, I.-G. Lee, KIER, Daejeon, Korea

3BV.5.15**FEEDSTOCK CHARACTERISATION AND SLOW PYROLYSIS KINETIC STUDY FOR THE PRODUCTION OF CHAR - GREENCARBON PROJECT**

Jorge LÓPEZ ORDOVÁS, Aston University, European Bioenergy Research Institute, Engineering & Applied Sciences, UNITED KINGDOM

Co-authors: J. Lopez-Ordovas, C. Bryant, K. Chong, A.V. Bridgwater, Aston University, Birmingham, United Kingdom

3BV.5.17**IMPROVING BIO-OIL QUALITY BY FRACTIONAL CONDENSATION OF PARTIALLY UPGRADED FAST PYROLYSIS VAPORS**

Stefano DELL'ORCO, University of Florence, ITALY

Co-authors: W.N. Wilson, P.B. Peterson, E.C. Engtrakul, M.K. McKinney, M.K. Magrini, National Renewable Energy Laboratory, Golden, USA; C.D. Chiaramonti, RE-CORD, Scarperia, Italy

3BV.5.18**CO-PROCESSING OF BIO-OIL AND CRUDE OIL IN A CONVENTIONAL REFINERY: COST AND BIO-CARBON CONTENT ASSESSMENTS FOR DIFFERENT PATHWAYS**

Debarati BISWAS, University of Alberta, Mechanical Engineering Dpt., CANADA
Co-authors: A. Alizadeh, A. O. Oyedun, A. Kumar, University of Alberta, Edmonton, Canada

3BV.5.19**NATURAL MINERALS FOR IN-SITU CATALYTIC PYROLYSIS OF PECAN NUT SHELLS**

Ladislao SANDOVAL-RANGEL, Instituto Tecnológico y de Estudios Superiores de Monterrey, MEXICO
Co-authors: D. X. Martínez-Vargas, A. Mendoza, Tecnológico de Monterrey, Monterrey, Mexico; C. Solís-Maldonado, Universidad Veracruzana, Monterrey, Mexico; J. Rivera de la Rosa, C. J. Lucio-Ortiz, G. L. Dimas-Rivera, Universidad Autónoma de Nuevo León, Monterrey, Mexico; J. LeBlanc, University of Louisiana at Lafayette, Usa

3BV.5.20**A PREDICTIVE MODEL FOR FAST PYROLYSIS OF CYLINDRICAL-SHAPE WOODY BIOMASS WITH A SIZE DISTRIBUTION**

Xi YU, Aston University, UNITED KINGDOM
Co-authors: H. Zhu, A.V. Bridgwater, Aston University, Birmingham, United Kingdom; J. Cai, Shanghai Jiao Tong, P.R. China

3BV.5.21**BIO-CRUDE OIL PRODUCTION FROM COFFEE GROUND BY FAST PYROLYSIS COMBINED WITH STABILIZATION PROCESS**

Sang-Kyu CHOI, Korea Institute of Machinery & Materials, Dept. of Clean Fuel & Power Generation, KOREA
Co-authors: Y.S. Choi, S.J. Kim, S.Y. Han, Y.W. Jeong, Y.S. Kwon, Q. Nguyen, Korea Institute of Machinery and Materials, Daejeon, Korea

3BV.5.24**PYROLYSIS OF WOOD IN ROTATING TUMBLER**

Guillaume MAUVIEL, Université de Lorraine, LRGP, CNRS Dpt., FRANCE
Co-authors: R. Maione, G. Wild, LRGP, Nancy, France; S. Kiesgen de Richter, LEMTA, Nancy, France; F. Lenzi, Sea Marconi, Torino, Italy

3BV.5.25**PYROLYSIS AND PRESSURE: NEW INSIGHTS BASED ON FIXED-BED EXPERIMENTS IN CHEMICAL REGIME**

Guillaume MAUVIEL, Université de Lorraine, LRGP, CNRS Dpt., FRANCE
Co-authors: E.S. Noumi, A. Bounaceur, A. Dufour, LRGP, Nancy, France

**Visual presentations 4BV.6 | 15:15 - 16:45 | Poster Area
EUROPEAN AND INTERNATIONAL STRATEGIES**

CHAIRPERSONS:

Martin JUNGINGER, Utrecht University, Copernicus Institute, THE NETHERLANDS
Birger KERCKOW, FNR - Agency for Renewable Resources, European and International Cooperation, GERMANY

4BV.6.1**FLEXIBI : SMALL-SCALE FLEXI-FEED BIOREFINERIES EXPERIMENTAL. EVALUATION AND DEVELOPMENT OF A DECISION SUPPORT TOOL DEVOTED TO AGRICULTURAL AND INDUSTRIAL URBAN AND PERI-URBAN WASTES**

Bernard CATHALA, INRA, Biopolymères Interactions Assemblages Dpt., FRANCE

4BV.6.8**CASE STUDY OF A SMALL SCALE ANAEROBIC DIGESTER IN CALABRIA, SOUTHERN ITALY**

Marco SEGRETO, National Research Council of Italy - Institute of Atmospheric Pollution Research, ITALY
Co-authors: M. Torre, P. Tratzi, L. Tomassetti, V. Paolini, D. Borin, F. Petracchini, National Research Council of Italy - Institute of Atmospheric Pollution Research, Monterotondo, Italy

4BV.6.9**DEVELOPMENT OF A LONG ENERGY ACTION PLANNING FOR WOOD BIOMASS IN LATIUM, CENTRAL ITALY**

Marco SEGRETO, Consiglio Nazionale delle Ricerche, Istituto sull'Inquinamento Atmosferico, ITALY
Co-authors: M. Torre, L. Tomassetti, D. Borin, P. Tratzi, V. Paolini, F. Petracchini, E. Paris, F. Gallucci, National Research Council of Italy - Institute of Atmospheric Pollution Research, Monterotondo, Italy

4BV.6.10**REPLACING OIL BASED HEATING BY DOMESTIC BIOMASS FUELS**

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

4BV.6.13**VALORIZATION OF BIOMASS POWER PLANTS ASHES IN PORTUGAL**

Elsa CANCELA, Biomass Centre for Energy, Specialized Solid Biofuels Laboratory, PORTUGAL
Co-authors: N. Alves, S. Figo, T. Almeida, CBE, Miranda do Corvo, Portugal

4BV.6.16 **BIOGAS IN ITALY: POTENTIAL AND DEVELOPMENT FOR A GREEN ECONOMY ACHIEVEMENT**

Marta FAZZI, Università degli Studi di Padova, Biology Dpt., ITALY
Co-author: F. Conti, Università degli Studi di Padova, Italy

4BV.6.17**ERASMUS + CAPACITY BUILDING PROJECT BBCHINA: A NEW MASTER PROGRAM IN THREE CHINESE UNIVERSITIES ON BIO-BASED CIRCULAR ECONOMY; FROM FIELDS TO BIOENERGY, BIOFUEL AND BIOPRODUCTS**

David CHIARAMONTI, RE-CORD and Department of Industrial Engineering, University of Florence, Industrial Engineering Dpt., ITALY
Co-authors: L. Nibbi, CREAR, Dept. of Industrial Engineering, University of Florence, Italy; E. Palchetti, CREAR, Department of Agrifood and Environmental Science, University of Florence, Italy; J. Yan, H. Li, Mälardalen University, School of Sustainable Development of Society and Technology, Västerås, Sweden; J. Sprafke, Faculty of Agricultural and Environmental Sciences, University of Rostock, Germany; P. He, Z. Hua, College of Environmental Science & Engineering, Tongji University, Shanghai, P.R. China; X. Yu, School of Energy and Power Engineering, University of Shanghai for Science and Technology, P.R. China; Y. Xu, College of Life Sciences, Sichuan University, Chengdu, P.R. China; J. Mazaj, CESIE, Palermo, Italy

4BV.6.18**THE STUDY OF POTENTIAL CARBON NEUTRALITY AT SOUTH-SAVO REGION IN FINLAND BY 2030**

Raghu KC, Lappeenranta-Lahti University of Technology LUT, Laboratory of Bioenergy, FINLAND
Co-authors: K. Karttunen, T. Ranta, LUT University, Mikkeli, Finland

4BV.6.19**MANURE UTILIZATION IN BIOGAS PLANTS IN GERMANY – POTENTIALS, BARRIERS AND ELIGIBILITY CONDITIONS**

Nadja RENSBERG, DBFZ-German Biomass Research Centre, GERMANY
Co-authors: J. Daniel-Gromke, V. Denysenko, P. Kornatz, W. Stinner, J. Liebetau, Deutsches Biomasseforschungszentrum gemeinnützige, Leipzig, Germany; F. Scholwin, J. Grope, Institut für Biogas, Kreislaufwirtschaft und Energie, Weimar, Germany

4BV.6.20**LINKING THE MONITORING AND EVALUATION OF SUSTAINABLE BIOECONOMY DEVELOPMENT WITH THE COUNTRY PERFORMANCE IN SDG REPORTING**

Ozgul CALICIOGLU, The Pennsylvania State University, Civil and Environmental Engineering Dpt., USA
Co-authors: S. Bracco, A. Bogdanski, The Food and Agriculture Organization of the United Nations, Rome, Italy

16:45 - 17:00**BREAK**

**Visual presentations 3BV.7 | 17:00 - 18:30 | Poster area
FUNDAMENTAL AND APPLIED PYROLYSIS 2**
CHAIRPERSONS:

Andreas APFELBACHER, Fraunhofer-Institut UMSICHT, Renewable Energy Dpt., GERMANY
Paul DE WILD, ECN part of TNO, Biomass & Energy Efficiency Dpt., THE NETHERLANDS

3BV.7.1**THE INFLUENCE OF CARBON DIOXIDE ON PYROLYSIS OIL**

Clarissa BAEHR, Karlsruhe Institute of Technology, Institute of Catalysis Research and Technology, GERMANY
 Co-authors: K. Raffelt, N. Dahmen, KIT - Karlsruhe Institute of Technology, Germany

3BV.7.2**PRODUCTION AND CHARACTERIZATION OF BIOCHAR FROM AGRICULTURAL RESIDUES CONTAINING PLASTICS**

Dilani Chathurika RATHNAYAKE MUDIYANSELAGE, Ghent University, Green Chemistry and Technology Dpt., BELGIUM
 Co-authors: D.C. Rathnayake, F. Ronsse, Department of Green Chemistry and Technology, Faculty of Bioscience Engineering, Ghent University, Belgium; O. Masek, S.P. Sohi, UK Biochar Research Centre, School of geosciences, University of Edinburgh, United Kingdom

3BV.7.4**INFLUENCE OF TEMPERATURE AND TIME DURING INITIAL PYROLYSIS OF LIGNOCELLULOSIC BIOMASS**

David USINO, University of Borås, Resource Recovery and Building Technology Dpt., SWEDEN
 Co-authors: S. Supriyanto, P. Ylittero, A. Pettersson, T. Richards, Swedish Centre for Resource Recovery, University of Borås, Sweden

3BV.7.8**DIFFERENT STRATEGIES FOR BIOMASS PYROLYSIS AND IN LINE STEAM REFORMING PROCESS**

Enara FERNANDEZ SAENZ, University of the Basque Country, SPAIN
 Co-authors: M. Cortazar, A. Arregi, M. Artetxe, I. Barbarias, L. Santamaria, M. Olazar, University of Basque Country, Bilbao, Spain

3BV.7.9**ASPEN PLUS MODELLING OF FRACTIONAL CONDENSATION SCHEMES FOR PRODUCTION OF FAST PYROLYSIS BIO-OIL**

Frederico GOMES FONSECA, KIT - Karlsruhe Institute of Technology, Institute of Catalysis Research and Technology, GERMANY
 Co-authors: F. G. Fonseca, A. Funke, N. Dahmen, Karlsruhe Institute for Technology, Germany

3BV.7.10**MODELLING OF BIOMASS PYROLYSIS PROCESS FOR SIMULTANEOUS PRODUCTION OF BIO-CRUDE AND BIO-COAL**

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

3BV.7.11**MECHANISTIC INSIGHTS INTO LIGNIN PYROLYSIS: ANALYSIS OF A LIGNIN MODEL COMPOUND USING TGA-MS**

Andrew URE, Trinity College Dublin, IRELAND
 Co-authors: M. Kelly, S. Dooley, Trinity College Dublin, Ireland

3BV.7.12**THE ROLE OF CHEMICAL STRUCTURE IN THE THERMAL DECOMPOSITION OF XYLAN**

Andrew URE, Trinity College Dublin, IRELAND
 Co-authors: A. O. Brien, S. Dooley, Trinity College Dublin, Ireland

3BV.7.13**HIGH QUALITY BIO-BASED PRODUCTS FROM BIOMASS PYROLYSIS FOR A SUSTAINABLE AGRICULTURE**

Patrick BRASSARD, Laboratoire d'Ingénierie des Systèmes Biologiques et des Procédés, FRANCE
 Co-authors: S. Godbout, J.H. Palacios, B.J. Alvarez-Chavez, E. Le Roux, IRDA, Quebec City, Canada; L. Hamelin, INSA, Toulouse, France

3BV.7.22**PRODUCTION OF PYROLYTIC PRODUCTS FROM PALM KERNEL CAKE USING FAST PYROLYSIS**

JaeYong JEONG, University of Science and Technology, Green Process and System Engineering Dpt., KOREA
 Co-authors: U. D. Lee, UST, KITECH, KIER, Cheonan, Daejeon, Korea; YD Kim, KITECH, KIER, Cheonan, Daejeon, Korea; SH Jeong, KITECH, Cheonan, Korea

3BV.7.23**ANALYTICAL PYROLYSIS STUDY OF DIFFERENT LIGNIN BIOMASS**

Basudeb SAHA, London South Bank University, School of Engineering, UNITED KINGDOM
 Co-authors: Z. Echrash, London South Bank University, United Kingdom; A. Abdulkhani, University of Tehran, Iran

3BV.7.24**WHAT IF WE CONVERT FAST PYROLYSIS BIO-OILS TO SOLID PRECURSOR MATERIALS?**

Julius GANE, University of Leeds, SCAPE Dpt., UNITED KINGDOM
 Co-authors: M. A. Nahil, P. T. Williams, University of Leeds, United Kingdom

3BV.7.29**BIOCHAR AND BIOSLURRY COMBUSTION**

Patrizio MASSOLI, CNR - Istituto Motori, ITALY
 Co-authors: R. Calabria, Istituto Motori, CNR, National Research Council of Italy, Naples, Italy; D. Fabbri, C. Torri, University of Bologna - CIRSA, Ravenna, Italy

3BV.7.30**HIGH-EFFICIENCY RECYCLING MODE OF AGRICULTURAL AND FORESTRY WASTE AND ITS APPLICATION EVALUATION-AN EMPIRICAL ANALYSIS BASED ON THE QIANNANYU PYROLYSIS POLY-GENERATION DEMONSTRATION PROJECT**

Zong-Lu YAO, Chinese Academy of Agricultural Engineering, P.R. CHINA
 Co-authors: H. Cong, L. Zhao, T. Ma, E. HU, W. Ji, Chinese Academy of Agricultural Engineering, P.R. China

Visual presentations 1BV.8 | 17:00 - 18:30 | Poster area**BIOMASS CROPS FOR BIOENERGY, BIOMATERIALS AND ECOSYSTEM SERVICES****CHAIRPERSONS:**

Marisol BERTI, North Dakota State University, Plant Sciences Dpt., USA
Vance OWENS, South Dakota State University, North Central Sun Grant Center, USA

1BV.8.1**CAN THE HIGH CORRELATION BETWEEN YIELD, STEM HEIGHT AND STEM DIAMETER IN GIANT REED (ARUNDO DONAX L.) HAVE A PRACTICAL USE?**

Enrico CEOTTO, CREA- Council for Agricultural Research and Economics, Research Centre for Agriculture and Environment, ITALY
 Co-authors: F. Ginaldi, G.A. Cappelli, S. Cianchetta, CREA-AA, Bologna, Italy

1BV.8.2**EFFECT OF IRRIGATION REDUCTION ON ARUNDO DONAX BIOMASS IN A POT EXPERIMENT**

Pedro V. MAURI ABLANQUE, IMIDRA, Investigación Agroambiental Dpt., SPAIN
 Co-authors: J. Cano-Ruiz, M.C. Amorós, I. Bautista, M.C. Lobo, P.V. Mauri, IMIDRA, Alcala de Henares, Spain

1BV.8.3**PHYTOREMEDIATION POTENTIAL OF THE PERENNIAL CROPS GIANT REED AND SWITCHGRASS TO SOILS CONTAMINATED WITH HEAVY METALS**

Leandro GOMES, Universidade Nova de Lisboa, PORTUGAL

Co-authors: B. Cumbane, J. Costa, J. Pires, C. Rodrigues, A. L. Fernando, Universidade NOVA de Lisboa, Caparica, Portugal; F. Santos, Universidade Estadual do Rio Grande do Sul, Porto Alegre, Brazil; F. Zanetti, A. Monti, Università di Bologna, Italy

1BV.8.4**ECONOMIC AND ENVIRONMENTAL ADVANTAGES OF MISCANTHUS CULTIVATION ON MARGINAL LANDS - LESSON LEARNED FROM THE MISCOMAR PROJECT**

Marta POGRZEBA, Institute for Ecology of Industrial Areas, POLAND

Co-authors: J. Krzyzak, S. Rusinowski, Institute for Ecology of Industrial Areas, Katowice, Poland; J. Clifton-Brown, E. Jensen, K. Rodrick, Institute of Biological, Rural & Environmental Sciences, Aberystwyth University, United Kingdom; I. Lewandowski, A. Kiesel, A. Mangold, Biobased Products and Energy Crops (340b), Institute of Crop Science, University of Hohenheim, Stuttgart, Germany

1BV.8.7**EFFECTS OF NITROGEN NUTRITION ON BIOMASS PRODUCTION OF TYPHA DOMINGENSIS TO BIOETHANOL PRODUCTION**

Fanny Mabel CARHUANCHO LEON, Agroenergy Group of Politecnica of Madrid University (GA-UPM), School of Agricultural, Food and Biosystems Engineering, SPAIN

Co-authors: P.L. Aguado, M.D. Curt, J. Fernandez, Polytechnic University of Madrid, Spain

1BV.8.8**LEGUME INTERCROPPING WITH THE BIOENERGY CROP SIDA HERMAPHRODITA ON MARGINAL SOIL**

Nicolai David JABLONOWSKI, Forschungszentrum Jülich, IBG-2 Dpt., GERMANY

Co-authors: M. Nabel, German Federal Agency for Nature Conservation – BfN, Bonn, Germany; S. D. Schrey, L. Harrison, Forschungszentrum Jülich GmbH, Institute of Bio- and Geosciences, IBG-2: Plant Sciences, Jülich, Germany; V. M. Temperon, Institute of Ecology, Faculty of Sustainability, Leuphana University of Lüneburg, Germany

1BV.8.10**EFFECT OF THE USE OF CALCAREOUS SOIL AMENDMENT ON POPLAR GROWN IN SHORT ROTATION FORESTRY**

Gianni FACCIOTTO, CREA- Council for Agricultural Research & Economics, Foreste e Legno, ITALY

Co-authors: S. Bergante, CREA Foreste e Legno, Casale Monferrato, Italy; T. Ozyhar, Omya International, Oftringen, Switzerland

1BV.8.11**COMPARISON OF CHLOROPHYLL AND POLYPHENOLS INDEXES IN DIFFERENT SPECIES OF ELM FOR USE AS ENERGY CROPS**M^a Cruz AMORÓS SERRANO, IMIDRA, SPAIN

Co-authors: M.C. Amorós, E. De Castro, I. Bautista, J. Ruiz-Fernández, P.V. Mauri, IMIDRA, Madrid, Spain

1BV.8.12**UNDERSTANDING THE POTENTIAL OF KENAF IN HEAVY METALS CONTAMINATED SOILS**

Berta CUMBANE, Faculdade de Ciencias e Tecnologia - Universidade Nova de Lisboa, Departamento de Ciencias e Tecnologia da Biomassa, PORTUGAL

Co-authors: A. Fernando, J. Costa, L. Gomes, J. Cunha, H. Araújo, J. Pires, C. Rodrigues, Faculdade de Ciências e Tecnologia da Universidade NOVA de Lisboa, Almada, Portugal; F. Zanetti, A. Monti, Università di Bologna, Italy; E. Alexopoulos, CRES, Athens, Greece

1BV.8.13**PERFORMANCE OF THREE CULTIVARS OF KENAF (HIBISCUS CANNABINUS L.) IN ZINC AND CHROMIUM CONTAMINATED SOILS**

Berta CUMBANE, Faculdade de Ciencias e Tecnologia - Universidade Nova de Lisboa, Departamento de Ciencias e Tecnologia da Biomassa, PORTUGAL

Co-authors: B. Cumbane, A. Fernando, J. Costa, L. Gomes, H. Araújo, J. Cunha, J. Pires, C. Rodrigues, Faculdade de Ciências e Tecnologia da Universidade NOVA de Lisboa, Almada, Portugal; Y.-F. Wang, IBFC, CAAS, Changsha, P.R. China

1BV.8.15**PRODUCTION OF OIL CROPS UNDER HEAVY METALS CONTAMINATED SOILS**

Jorge COSTA, New University of Lisbon, PORTUGAL

Co-authors: L. Gomes, J. Pires, C. Rodrigues, A.L. Fernando, FCT/UNL, Caparica, Portugal; F. Zanetti, A. Monti, UNIBO, Bologna, Italy

1BV.8.16**VARIABILITY OF CAMELINA PRODUCTION IN THE CENTER OF SPAIN IN TWO YEARS OF CULTIVATION. NEW PROFITABLE CROP IN THE ALTERNATIVES**

Pedro V. MAURI ABLANQUE, IMIDRA, Investigación Agroambiental Dpt., SPAIN

Co-authors: P. V. Mauri, A. Plaza, J. Ruiz-Fernández, IMIDRA, MADRID, Spain; J. Prieto, A. Capuano, Camelina Company, Madrid, Spain

1BV.8.17**MOLECULAR MECHANISM OF RESPONSE AND ADAPTATION OF THE ENERGY PLANT JATROPHA CURCAS L. TO DROUGHT STRESS BASED ON RNA-SEQ ANALYSIS**

Ming GONG, Yunnan Normal University, School of Life Sciences, P.R. CHINA

Co-author: B. Zhang, Yunnan Normal University, Kunming, P.R. China

1BV.8.18**EFFECT OF TREATED SEWAGE SLUDGE ON DRY WEIGHT BIOMASS PRODUCTION IN TEN DIFFERENT ENERGY CROPS**M^a Cruz AMORÓS SERRANO, IMIDRA, SPAIN

Co-authors: I. Bautista, M.C. Amorós, S. Belver, J. Cano-Ruiz, A. Plaza, M.C. Lobo, P.V. Mauri, IMIDRA, Alcalá de Henares, Spain

1BV.8.20**AN ALTERNATIVE CROPPING SYSTEM SUITABLE FOR BIOMASS PRODUCTION AND REMOVE CADMIUM FROM CADMIUM-POLLUTED PADDY FIELD**

Zhaoyang HU, Nanjing Agriculture University, College of Life Science, P.R. CHINA

Co-authors: Q.S. Cai, L.Q. Lou, K.D. Ren, Nanjing Agricultural University, Nanjing, P.R. China

1BV.8.21**INNOVATIVE LIGNOCELLULOSIC CROP ROTATION SYSTEMS AS A SOURCE OF FEEDSTOCK FOR BIO-FUELS PRODUCTION**

Walter ZEGADA-LIZARAZU, University of Bologna, Agricultural Science Dpt., ITALY

Co-authors: A. Parenti, A. Monti, UNIBO, Bologna, Italy; C. Martin-Sastre, J. Carrasco, CIEMAT, Madrid, Spain; M. Cristou, E. Alexopoulos, CRES, Athens, Greece

1BV.8.23**ASSESSING KEY PARAMETERS OF PRODUCTIVITY IN A NON-LAND-DEPENDENT SYSTEM OF BIOMASS PRODUCTION**

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

Co-authors: I. Martin-Girela, A. Martínez, P.L. Aguado, J. Fernández, Universidad Politecnica de Madrid, Spain

1BV.8.24**ONE INTEGRATED BIOREFINERY MODEL FOR USE THE STRAW BASE HORSE MANURE RESULTED IN RURAL TRUISM ACTIVITY**

Bartha SANDOR, Cercetare Silox, BIO C-Romania, ROMANIA

Co-authors: S. Bartha, B. Vajda, Green Energy Association, Sf. Gheorghe, Romania; S. Berardino, L.C. Duarte, LNEG -Lisboa, Portugal; A. Reis, F. Carvalheiro, P. Moniz, LNEG- Lisboa, Portugal

1BV.8.26**BIOENERGY IN ROMANIA. A SHORT OVERVIEW OF BIOMASS- AND BIOGAS-BASED PLANTS**

Ioana IONEL, Politehnica University of Timisoara, Mechanical Engineering Dpt., ROMANIA

Co-author: D. Cebucean, Politehnica University of Timisoara, Romania

1BV.8.27**POLYCYCLIC PLANTATIONS (PP): INNOVATIVE MODELS FOR SUSTAINABLE COMBINED PRODUCTION OF NOBLE HARDWOOD AND BIOMASS**

Gianni FACCIOTTO, CREA- Council for Agricultural Research & Economics, Foreste e Legno, ITALY
Co-authors: S. Bergante, CREA- Centre for Forestry and Wood, Casale Monferrato, Italy; M. Plutino, D. Sansone, C. Bidini, M. Marchi, F. Pelleri, CREA- Centre for Forestry and Wood, Arezzo, Italy

1BV.8.28**PANACEA - A THEMATIC NETWORK TO DESIGN THE PENETRATION PATH OF NON-FOOD CROPS INTO EUROPEAN AGRICULTURE**

Efthymia ALEXOPOULOU, CRES - Center for Renewable Energy Sources and Saving, Biomass Dpt., GREECE

1BV.8.29**COMPARABLE STUDIES ON FOUR ANNUAL HERBACEOUS LIGNOCELLULOSIC CROPS AS FEED-STOCK FOR ADVANCED BIOFUELS**

Efthymia ALEXOPOULOU, CRES - Center for Renewable Energy Sources and Saving, Biomass Dpt., GREECE
Co-authors: W. Zegada, A. Monti, UNIBO, Bologna, Italy; M. Christou, CRES, Pikermi, Greece

1BV.8.30**N FERTILISATION STRATEGIES FOR THE USE OF P-RICH ORGANIC AMENDMENTS IN RESTORATION OF SOIL PRODUCTIVITY**

Peter SCHRÖDER, Helmholtz Zentrum München, Comparative Microbiome Analysis Dpt., GERMANY
Co-authors: A. Saebo, T. Persson, H.M. Hanslin, NIBIO, Klepp, Norway

1BV.8.31**INTERSPECIFIC COMPETITION IN SHORT ROTATION COPPICE OF MIXED STANDS OF DIFFERENT POPLAR GENOTYPES AND BLACK LOCUST**

Jessica LICHTENBERG, Georg-August University, GERMANY
Co-authors: J. Rebola Lichtenberg, D. Seidel, Georg-August University, Göttingen, Germany

1BV.8.33**INVESTIGATING THE CHEMICAL PROPERTIES AND SUITABILITY OF THREE DIFFERENT BAMBOO SPECIES GROWN ON CONTAMINATED SOIL.**

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

1BV.8.34**NOVEL INSIGHT INTO THE REGULATION OF LIGNIN BIOSYNTHESIS IN MISCANTHUS**

Feng HE, Centre for Organismal Studies, Heidelberg University, GERMANY
Co-authors: S. Wolf, T. Rausch, Center for Organismal Studies, Heidelberg, Germany

1BV.8.35**BIOGAS PRODUCTION FROM SUGARCANE BAGASSE**

Franciele FOSSALUZA, University at São Paulo, chemistry engineer, BRAZIL
Co-authors: I. Zamboni, P. Moreira Junior, R. Schneider, C. Oller do Nascimento, University of São Paulo, Brazil

1BV.8.36**ELECTRICITY PRODUCTION ESTIMATE FROM THE RESIDUAL BIOMASS OF PINUS TAEDA L. IN PARANA STATE - BRAZIL**

Suani COELHO, University of São Paulo, GBIO/Institute of Energy and Environment, BRAZIL
Co-authors: J. M. Pacheco, University of São Paulo - USP, Piracicaba, Brazil; R. Lima, A. Figueiredo Filho, Federal University of Parana - UFPR, Brazil

Visual presentations | ICV.1 | 08:30 - 10:00 | Poster area

THE ROLE OF POLICY IN FACILITATING MARKET IMPLEMENTATION**CHAIRPERSONS:**

Francisco GÍRIO, LNEG - Laboratório Nacional de Energia e Geologia, Bioenergy Unit, PORTUGAL
Heinz A. OSSENBRINK, Former Head of Unit of European Commission, Joint Research Centre, ITALY

ICV.1.2**BIO-THINK PROJECT FOR SECOND GENERATION BIOFUELS**

Jean-Yves DUPRE, Bio-Think, FRANCE

ICV.1.6**AN EXPERIENCE OF CUSTOMIZED YEAST USE IN BIOETHANOL PRODUCTION**

Claudia STECKELBERG, UNICAMP, Bioprocesses Dpt., BRAZIL
Co-authors: S.R. Andrietta, BIOCONTAL, Campinas, Brazil; P. R. Kitaka, M.G.S. Andrietta, UNICAMP, Campinas, Brazil

ICV.1.7**EXPERIMENTAL STUDY ON THE GRINDABILITY TESTS BY MIXING RATIO WITH COAL AND BIOMASS**

Taeyoung CHAE, Korea Institute of Industrial Technology, REPUBLIC OF KOREA
Co-authors: Y. Lee, J. Lee, W. Yang, Korea Institute of Industrial Technology, Cheonan, Republic of Korea

ICV.1.9**STUDY OF COPPER CONTENT DISTRIBUTION THROUGH THE THERMOCHEMICAL CONVERSION CHAIN OF VINE PRUNING BIOMASS**

Giulia SANTUNIONE, University of Modena and Reggio Emilia, Dpt. of Engineering Enzo Ferrari, ITALY
Co-authors: A. Bigi, L. Sebastianelli, P. Tartarini, University of Modena and Reggio Emilia, Italy

ICV.1.11**ABACUS – PILOT SCALE MICROALGAE CULTIVATION TARGETING THE PRODUCTION OF COMMERCIAL TERPENOIDS**

Tiago GUERRA, A4F - Algae for Future, PORTUGAL
Co-authors: C. Parreira, A.R. Serra, S.M. Badenes, L. Costa, L.T. Guerra, V. Verdelho Vieira, A4F, Lisbon, Portugal; R. Gallego, M. Herrero, Laboratory of Foodomics, Institute of Food Science Research, CIAL (CSIC-UAM), Madrid, Spain

ICV.1.13**PHOSPHORUS RECOVERY FROM SEWAGE SLUDGE**

Fabian STENZEL, Fraunhofer-Institut UMSICHT, Biological Process Technology, GERMANY
Co-author: P. Krystynik, Fraunhofer Institute, Sulzbach Rosenberg, Germany

ICV.1.16**ACCURATE DETERMINATION OF MOISTURE CONTENT IN WOOD CHIPS**

Anne Mette FREY, Danish Technological Institute, Biomass and Combustion Technology Dpt., DENMARK
Co-authors: M. Gottlieb Jespersen, H. Kjeldsen, P. Friis Østergaard, J. Nielsen, Danish Technological Institute, Aarhus, Denmark

ICV.1.18**EQUIPMENT FOR MICROALGAE PRIMARY DEWATERING AND SEPARATION USING GRAVITATIONAL AND CENTRIFUGAL FORCES**

Vojtech BELOHLAV, Czech Technical University in Prague, Process Engineering Dpt., CZECH REPUBLIC
Co-author: T. Jirout, Czech Technical University in Prague, Faculty of Mechanical Engineering, Department of Process Engin, Czech Republic

ICV.1.19**ENERGETIC USE OF AGRO-INDUSTRIAL OIL PALM RESIDUES IN CEMENT KILNS: GEOCYCLE COMPANY'S EXPERIENCE IN TABASCO, MEXICO**

Liliana PAMPILLÓN-GONZÁLEZ, Universidad Juárez Autónoma de Tabasco, División Académica de Ciencias Biológicas, MEXICO
Co-authors: D. Figuerias-Jaramillo, E. Corzo-Blas, GEOCYCLE, Villahermosa, Mexico; L. Pampillon-González, UJAT, Villahermosa, Mexico

ICV.1.20

THE ALTERNATIVE AND RENEWABLE TRANSPORT FUEL INDUSTRIAL FORUM: MAIN RESULTS OF TWO YEARS' WORK ON EU POLICIES AND MARKETS

David CHIARAMONTI, RE-CORD and Department of Industrial Engineering, University of Florence, Industrial Engineering Dpt., ITALY

Co-authors: T Goumas, G Vourliotakis, D Tzoulaki, EXERGIA, Athens, Greece; K Maniatis, DG Energy, European Commission, Bruxelles, Belgium; D Tacconi, RE-CORD, Florence, Italy

ICV.1.21

TRANSFORMING NON-RECYCLABLE FIBREBOARD WASTE IN HIGH-VALUE ACTIVATED CARBON AND RENEWABLE ENERGY

Tom HAELDERMANS, Act&Sorb, Research & Development Dpt., BELGIUM

Co-authors: K. Vanreppelen, S. Vanderheyden, Act&Sorb, Houthalen, Belgium

ICV.1.22

DESIGN OF A 30 MWTH BIOMASS DISTRICT HEATING PLANT

Kyriakos PANOPOULOS, Centre For Research & Technology Hellas, Chemical Process & Energy Resources Institute, GREECE

Co-authors: Tz. Kraia, S. Psimmenos, A. Prosmitis, S. Voutetakis, CERTH, Thessaloniki, Greece

ICV.1.25

BIOENERGY RETROFITS FOR EUROPE'S INDUSTRY - THE BIOFIT PROJECT

Rainer JANSSEN, WIP, Biomass Dpt., GERMANY

Co-authors: P.J. Reumerman, J. Vos, BTG Biomass Technology Group, Enschede, The Netherlands; D. Rutz, WIP Renewable Energies, Munich, Germany; D. Bacovsky, BIOENERGY2020+, Graz, Austria; S. Hauschild, Deutsche Biomasseforschungszentrum (DBFZ), Leipzig, Germany; H. Saastamoinen, VTT Technical Research Centre of Finland, Espoo, Finland; E. Karampinis, Centre for Research & Technology, Hellas (CERTH), Thessaloniki, Greece; M. Ballesteros, Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas (CIEMAT), Madrid, Spain; G. Gustavsson, ESS - Energikontor Sydost AB, Växjö, Sweden; A. Kazagic, Elektroprivreda BiH, Sarajevo, Bosnia and Herzegovina; M. Wanders, Technip Benelux, Zoetermeer, The Netherlands; M.J.G. Meeusen, Stichting Wageningen Research, Wageningen, The Netherlands; A. Hull, Swedish Biofuels, Lidingö, Sweden; S.J. Kiartzis, Hellenic Petroleum, Maroussi, Greece; J.M. García Alonso, Biocarburantes De Castilla Y León, Babilafuente, Spain

ICV.1.28

BIOREG PROJECT: HOW TO FULLY UNLOCK THE UNUSED WOOD WASTE POTENTIAL IN EUROPE?

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

Co-authors: D. Boulday, CEDEN, Rouen, France; P. Antoine, ARBN, Caen, France; M. Cocchi, EUBIA, Brussels, Belgium; L. Bern, BRG, Goeteborg, Sweden; H. Forsgren, Göteborg Energi AB, Sweden; L. Detterfelt, Renova, Goeteborg, Sweden; K. Supancic, BIOS, Graz, Austria; M. Borzecka, K. Borzecki, IUNG-PIB, Pulawy, Poland; T. Marinova, Sofia, Bulgaria

Visual presentations 2CV.2 | 08:30 - 10:00 | Poster area

BIOMASS GASIFICATION, GAS CLEANING AND UTILISATION FOR HEAT AND POWER GENERATION

CHAIRPERSONS:

Berend VREUGDENHIL, ECN part of TNO, Bio Energy & Efficiency Dpt., THE NETHERLANDS

Invited

2CV.2.1

ENHANCING GASIFIER HOT GAS FILTER PERFORMANCE THROUGH INNOVATIVE CERAMIC FILTER REGENERATION TECHNIQUES

Dimitris MERTZIS, EMISIA S.A., GREECE

Co-authors: S. Skarlis, Exothermia SA, Thessaloniki, Greece; G. Koltsakis, Z. Samaras, Aristotle University of Thessaloniki, Laboratory of Applied Thermodynamics, Thessaloniki, Greece

2CV.2.3

PARAMETRIC STUDY ON THE CONCEPT, DESIGN AND PERFORMANCE OF A NOVEL 100KWTH 3-STAGE GASIFIER

Arash AGHAALIKHANI, La Sapienza University/ Technical University of Vienna, Astronautical, Electrical and Energy Engineering Dpt., ITALY

Co-authors: B. Decapriariis, P. Defilippis, D. Borello, F. Rispoli, Sapienza University of Rome, Italy; H. Hofbauer, TU Wien, Austria

2CV.2.4

ACTIVATION OF VARIOUS NON-ACTIVE BED MATERIALS FOR BIOMASS GASIFICATION

Katharina WAGNER, Bioenergy 2020+, Biomass Gasification Systems Dpt., AUSTRIA

Co-authors: M. Kuba, Bioenergy 2020+ GmbH, Güssing, Austria; C. Hammerl, M. Langer, H. Hofbauer, Institute of Chemical, Environmental & Bioscience Engineering, TU Wien, Vienna, Austria

2CV.2.6

ENVIRONMENTALLY SUSTAINABLE FLUIDIZABLE CATALYST FOR THE CONVERSION OF TARS FROM BIOMASS GASIFICATION

Cindy TORRES QUIROS, Universidad of Costa Rica, Chemical Engineering Dpt., COSTA RICA

Co-authors: H. I de Lasa, S. Rostom, Chemical Reactor Engineering Centre, Department of Chemical and Biochemical Engineering, The Univers, ON, Canada

2CV.2.9

MAXIMIZATION OF PROFIT IN A CO-GASIFICATION CHP PLANT THROUGH BIOMASS TORREFACTION

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

Co-authors: M. Ozonoh, T.C. Anikete, School of Chemical and Metallurgical Engineering, Faculty of Engineering and the Built Environment, Johannesburg, South Africa; B.O. Oboirien, Department of Chemical Engineering, University of Johannesburg, Doornfontein Johannesburg, 2028, South Africa

2CV.2.10

BIOMASS-BASED SYSTEMS FOR ATMOSPHERIC WATER GENERATION, A 1.75 M\$ IDEA. ACCOUNT OF THE X-PRIZE AWARD

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

Co-authors: D. Hertz, Sky Water, Sky Source, Los Angeles, Usa; J. Mason, B. Kaufmann, All Power Labs, Berkeley, Usa

2CV.2.12

DESIGN AND FIRST TESTS OF A LAB SCALE GASIFIER SYSTEM

Marco PUGLIA, University of Modena and Reggio Emilia, DIF Dpt., ITALY

Co-authors: N. Morselli, P. Tartarini, Università degli Studi di Modena e Reggio Emilia, Italy

2CV.2.13

ENHANCEMENT OF THE LOAD MODULATION CAPABILITY OF A PILOT PLANT GASIFIER BY MEANS OF SECONDARY AIR CONTROL

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

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

2CV.2.14

GASIFICATION OF LIGNOCELLULOSIC RESIDUES AT PILOT SCALE: EVIDENCE OF THE CATALYTIC EFFECT OF ITS ASH

Nadia CERONE, ENEA Research Centre, Technical Unit for Trisaia Technologies, ITALY

Co-authors: F. Zimbardi, L. Contuzzi, M. Grieco, M. Morgana, A. Villone, M. Carnevale, R. Civita, ENEA, Rotondella, Italy

2CV.2.15

FROM EQUILIBRIUM TO KINETIC MODELLING: THE GASIFICATION OF APPLE PRUNING RESIDUES IN A SPOUTED BED REACTOR

Filippo MARCHELLI, Free University of Bozen-Bolzano, Faculty of Science and Technology, ITALY

Co-authors: C. Moliner, B. Bosio, E. Arato, University of Genova, Italy; M. Baratieri, Free University of Bozen-Bolzano, Italy

2CV.2.16**INTEGRATION OF WASTE HEAT STREAMS INTO INDUSTRIAL CHPS OR DISTRICT HEATING UNITS**

Nerijus STRIUGAS, Lithuanian Energy Institute, Laboratory of Combustion Processes, LITHUANIA
 Co-authors: R. Skvorėniskienė, Lithuanian Energy Institute, Kaunas, Lithuania; R. Bakas, JSC "Kauno Energija", Kaunas, Lithuania; M. Radinas, JSC "Enerstena", Kaunas, Lithuania; E. Kurkela, VTT Technical Research Centre of Finland, Espoo, Finland

2CV.2.17**SYNGAS CLEAN UP AND WASTE WATER MANAGEMENT IN INDUSTRIAL GASIFICATION PLANT FED BY BIOMASS AND AGRO-INDUSTRIAL RESIDUES**

Gabriele CALI', Sotacarbo, ITALY
 Co-authors: G. Cali, E. Maggio, S. Meloni, Sotacarbo, Carbonia, Italy; P. Deiana, C. Bassano, ENEA, Roma, Italy

2CV.2.18**PREDICTING PRODUCER GAS COMPOSITION IN BUBBLING FLUIDIZED BEDS USING CHEMICAL EQUILIBRIUM AND EMPIRICAL CORRELATIONS**

Daniel PIO, University of Aveiro, Environment and Planning Dpt., PORTUGAL
 Co-authors: L. Tarelho, D. Neves, University of Aveiro, Portugal

2CV.2.19**ASSESSING THE EFFECT OF GASIFICATION CHAR ON THE REMOVAL OF MODEL TAR COMPOUNDS IN A TAR CRACKING REACTOR**

Marco BARATIERI, Free University of Bolzano, Faculty of Science and Technology, ITALY
 Co-authors: E. Cordioli, S. Vakalis, F. Patuzzi, Free University of Bolzano, Italy

2CV.2.26**GASIFICATION OF WOODY BIOMASS IN AN INTERCONNECTED FLUIDIZED BED**

Keng-Tung WU, National Chung Hsing University, Department of Forestry, TAIWAN
 Co-authors: Y. P. Chyow, P. C. Chen, Institute of Nuclear Energy Research, Taoyuan, Taiwan; Y. C. Tung, W. C. Chang, R. Y. Chein, National Chung Hsing University, Taichung, Taiwan

2CV.2.27**EVALUATION OF THE OPERATIONAL BEHAVIOUR OF FIXED-BED BIOMASS GASIFIERS – A NOVEL APPROACH FOR STEADY-STATE ANALYSIS**

Markus GÖLLES, Bioenergy 2020+, AUSTRIA
 Co-authors: C. Hollenstein, C. Zemmann, S. Martini, Bioenergy2020+, Graz, Austria; D. Antolini, F. Patuzzi, M. Baratieri, Free University Of Bozen-Bolzano, Italy

2CV.2.28**EVALUATION OF ANALYTICAL METHODS FOR ASSESSING BIOMASS GASIFICATION PRODUCER GAS QUALITY FOR SOLID OXIDE FUEL CELL (SOFC) OPERATION**

Stefan MARTINI, Bioenergy 2020+, AUSTRIA
 Co-authors: J. Lagler, T. Tsiotsias, S. Retschitzegger, N. Kienzl, Bioenergy2020+, Graz, Austria; A. Anca-Couce, Institute of Thermal Engineering, Graz University of Technology, Austria

2CV.2.30**MODELLING AND EXPERIMENTAL VALIDATION OF FLUIDIZED BED REACTORS FOR CO-GASIFICATION OF COAL AND BIOMASS TO STUDY HYDRODYNAMICS AND CONVERSION**

Rahul DEV, National Institute of Technology Karnataka, Mechanical Engineering Dpt., INDIA
 Co-authors: M. Jayanna, V. Madav, National Institute of Technology Karnataka, Mangalore, India

2CV.2.31**AN EXPERIMENTAL STUDY ON THE EFFECTIVENESS OF TAR CAPTURE IN BIOCHAR FROM SLOW PYROLYSIS**

Ho LIM, Korea Institute of Industrial Technology, REPUBLIC OF KOREA
 Co-authors: Y. Lee, T. Chae, J. W. Yang, Korea Institute of Industrial Technology, Cheonan, Chungcheongnam-do, Republic of Korea

2CV.2.32**AIR STAGING AND IN-BED QUENCHING FOR AUTOTHERMAL GENERATION OF CHAR AND LOW-TAR PRODUCER GAS**

Thomas KIRCH, The University of Adelaide, School of Mechanical Engineering, AUSTRALIA
 Co-authors: C.H. Birzer, P. J. van Eyk, P.R. Medwell, The University of Adelaide, Australia

2CV.2.33**SYNGAS CLEANING USING WET SCRUBBER WITH WATER AND ORGANIC LIQUID**

Petra VAVRÍKOVÁ, Technical University Brno, CZECH REPUBLIC
 Co-authors: M. Baláš, P. Elbl, M. Lisý, P. Milčák, Brno University of Technology, Czech Republic

2CV.2.34**UTILISATION OF HIGH-TEMPERATURE SORPTION METHODS IN CONJUNCTION WITH FILTRATION ON CERAMIC RIGID FILTERS FOR IMPROVED QUALITY OF SYNGAS AND RELIABILITY OF GASIFICATION INSTALLATIONS**

Mateusz SZUL, Instytut Chemicznej Przeróbki Wegla, POLAND
 Co-authors: T. Iluk, A. Sobolewski, Institute for Chemical Processing of Coal, Zabrze, Poland

Visual presentations | 3CV.3 | 13:30 - 15:00 | Poster Area
BIOREFINERIES CONCEPTS AND PROCESSING

CHAIRPERSONS:

Joana PORTUGAL PEREIRA, Imperial College London, UNITED KINGDOM
Invited

3CV.3.1**FRACTIONATION OF LIGNOCELLULOSIC BIOMASS, SCALE-UP AND DOWNSTREAM PROCESSING DESIGN FOR THE PRODUCTION OF BIO-BASED CHEMICALS AND BUILDING MATERIA**

Andre VAN ZOMEREN, ECN part of TNO, Bio-Energy Dpt., THE NETHERLANDS
 Co-authors: A.T. Smit, J. van Hal, TNO, Petten, The Netherlands; M. Leschinsky, M. Verges, Fraunhofer, Leuna, Germany; P. Schulze, MPG, Magdeburg, Germany; P. Ihalainen, Metgen, Kaarina, Finland

3CV.3.3**COMPARING DIFFERENT BIOREFINERY CONCEPTS WITHIN THE GRACE PROJECT**

Moritz WAGNER, University of Hohenheim, Institute of Crop Science (340b), GERMANY
 Co-authors: I. Lewandowski, J. Lask, A. Kruse, D. Steinbach, A. Kiesel, University of Hohenheim, Stuttgart, Germany; M. Ištuk, S. Rukavina, Industrija nafte, Zagreb, Croatia

3CV.3.4**SYNGAS FERMENTATION AT ELEVATED PRESSURE - EXPERIMENTAL RESULTS**

Ina Katharina STOLL, KIT-Karlsruhe Institute of Technology, IKFT Dpt., GERMANY
 Co-authors: K. Stoll, N. Boukis, J. Sauer, Karlsruhe Institute of Technology, Germany

3CV.3.7**STUDIES ON CONVERSION OF BIOMASS-DERIVED SYNGAS TO LIQUID FUELS VIA FISCHER-TROPSCH SYNTHESIS**

Stefano PIAZZI, Free University of Bolzano, Faculty of Science and Technology, ITALY
 Co-authors: S. S. Ail, V. Benedetti, F. Patuzzi, M. Baratieri, Free University of Bozen-Bolzano, Italy

3CV.3.10**SOYBEAN HULLS HYDROLYZATE AS SOURCE OF SUGARS FOR BACTERIAL CELLULOSE PRODUCTION**

Cristiane FARINAS, Embrapa Instrumentation, R&D Dpt., BRAZIL
 Co-authors: V. Vasconcellos, Embrapa, Sao Carlos, Brazil; E. Ximenes, M. Ladisch, Purdue University, West Lafayette, Usa

3CV.3.11**SEPARATION OF LIGNIN FROM INDUSTRIAL PREHYDROLYSIS LIQUOR USING A SOLID ACID CATALYST**

Nontembiso PIYO, North West University, Chemical Engineering Dpt., SOUTH AFRICA
Co-author: S. Marx, North west University, Potchefstroom, South Africa

3CV.3.12
EFFECT OF MEDIUM COMPOSITION ON MICROBIAL GROWTH AND BIOALCOHOL FORMATION IN SYNGAS FERMENTATION

Young-Kee KIM, Hankyong National University, Chemical Engineering Dpt., KOREA
Co-authors: B. Ahn, S. Park, Hankyong National University, Anseong, Korea

3CV.3.14
SUGAR PRODUCTION FROM WHEAT STRAW BY HYDROTHERMAL PRETREATMENTS AND ENZYMAT-IC HYDROLYSIS

Francesco ZIMBARDI, ENEA Research Centre, Energy Technologies Dpt., ITALY
Co-authors: E. Viola, F. Zimbardi, N. Cerone, A. Romanelli, V. Valerio, ENEA, Rotondella, Italy; M. Abdulsattar, University of Hull, School of Engineering, United Kingdom

3CV.3.15
METABOLIC ENGINEERING OF CLOSTRIDIUM SP. STRAIN WST FOR ENHANCED PRODUCTION BIOBUTANOL FROM MARINE BIOMASS

Yirui WU, Shantou University, Department of Biology, P.R. CHINA
Co-authors: S. Shanmugam, Y. Hong, Shantou University, Shantou, P.R. China

3CV.3.18
IMPROVEMENT OF CELLULOSE ACCESSIBILITY WITH PRODUCING HEMICELLULOSE AND LIGNIN DERIVED COMPOUNDS BY SEQUENTIAL PRETREATMENT PROCESSES

June-Ho CHOI, Seoul National University, Environmental Materials Science Dpt., KOREA
Co-authors: S.Y. Park, J.H. Kim, S.M. Cho, J.C. Kim, D.S. Lee, I.G. Choi, Seoul National University, Korea; S.K. Jang, Korea Research Institute of Chemical Technology, Ulsan, Korea

3CV.3.19
EFFECT OF MAGNETIC SOLID ACID CATALYST FOR DECONSTRUCTION OF LIGNOCELLULOSIC BIOMASS

Jong-Hwa KIM, Seoul National University, Environmental Material Science Dpt., KOREA
Co-authors: S.Y. Park, S.M. Cho, J.H. Choi, D.S. Lee, I.G. Choi, Seoul National University, Korea; S.M. Lee, National Institute of Forest Sciences, Seoul, Korea

3CV.3.21
USE OF CHAR FROM BIOMASS GASIFICATION AS CO₂ ADSORBENT AND CATALYST SUPPORT: EXPERIMENTAL ANALYSIS AND RESULTS

Vittoria BENEDETTI, Free University of Bolzano, Faculty of Science and Technology, ITALY
Co-authors: S. Ail, E. Cordioli, F. Patuzzi, M. Baratieri, Free University of Bolzano, Italy

3CV.3.22
BLENDING WHEAT STRAW WITH CA OR P RICH BIOMASS TO DECREASE AGGLOMERATION IN FLUIDIZED BED

Mateusz SZUL, Instytut Chemicznej Przeróbki Węgla, POLAND
Co-authors: F. Defoort, R. Belem-Lavrador, S. Valin, CEA, Grenoble, France; A. Frattini, Betarenewables, Tortona, Italy

3CV.3.23
A NEW COAGULANT FOR AQUEOUS SUGAR RECOVERY FROM ENZYMATIC HYDROLYSATE OF MISCANTHUS TREATED BY HYDROTHERMOLYSIS

Ju-Hyun YU, Korea Research Institute of Chemical Technology, Center for Bio-based Chemistry Dpt., KOREA
Co-authors: C.-D. Jung, H.-Y. Kim, Korea Research Institute of Chemical Technology, Ulsan, Korea; K.-S. Hong, Korea Research Institute of Chemical Technology, Daejeon, Korea; C. Ham, Daesang Corporation, Icheon, Korea

3CV.3.24
PRETREATMENT AND FRACTIONATION OF WHEAT STRAW BY ORGANOSOLV IN BIPHASIC SYSTEM

Francesco ZIMBARDI, ENEA Research Centre, Energy Technologies Dpt., ITALY
Co-authors: E. Viola, M. Morgana, N. Cerone, A. Romanelli, V. Valerio, ENEA, Rotondella, Italy

3CV.3.25
EUBCE Student Awardee Presentation
MANGO FRUIT WASTE: AN AMAZING BIOREFINERY OPPORTUNITY

Daniel David DURAN-ARANGUREN, Universidad de los Andes, Bogota, D.C., COLOMBIA
Co-authors: D. M. Barrera, L. C. Carreño-Guzman, J. C. Rios, D. S. Saavedra, R. Sierra, G. Morantes, Universidad de los Andes, Bogotá, Colombia

3CV.3.27
PLUG-FLOW REACTOR BASED ACID FERMENTATION FOR SMALL-SCALE BIOREFINERIES

Stefan JUNNE, TU Berlin, Bioprocess Engineering Dpt., GERMANY
Co-authors: E. Heuson, R. Roulo, V. Phalip, S. Paul, Université de Lille, France; R. Saija, E. Tampio, M. Vainio, Luke Research, Jyväskylä, Finland; P. Neubauer, TU Berlin, Germany

3CV.3.28
CONVERTING COFFEE SILVERSKIN TO VALUE-ADDED PRODUCTS UNDER A BIOREFINERY APPROACH

Cristina DEL POZO CARVAJAL, Universitat Autònoma de Barcelona, Chemistry Dpt., SPAIN
Co-authors: N. Puy, E. Fàbregas, J. Bartolí, UAB, Cerdanyola del Vallès Barcelona, Spain

3CV.3.29
SYNTHESIS AND APPLICATION OF HETEROGENEOUS CATALYSTS BASED ON HETEROPOLYACIDS FOR THE PRODUCTION OF 5-HYDROXYMETHYL FURFURAL FROM GLUCOSE

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

Visual presentations 2CV.4 | 13:30 - 15:00 | Poster area
ADVANCES IN GASIFICATION FOR SYNTHESIS GAS PRODUCTION AND SYNTHESIS CLEANING

CHAIRPERSONS:
Frederik RONSE, Ghent University, Biosystems Engineering Dpt., BELGIUM
Neeta SHARMA, ENEA Research Centre, Sustainable Production and Territorial Systems, Biotechnology and Agro-Industry Division, ITALY

2CV.4.1
BIOMASS GASIFICATION IN A NOVEL 50KWTH INDIRECTLY HEATED BUBBLING FLUIDIZED BED STEAM REFORMER: EXPERIMENTAL CAMPAIGN AND PROCESS MODELLING

Mara DEL GROSSO, TU Delft, Process & Energy Dpt., THE NETHERLANDS
Co-authors: M. del Grosso, E. Mohammadzadeh Moghaddam, W. de Jong, C. Tsekos, Delft University of Technology, The Netherlands

2CV.4.2
SECONDARY TAR CRACKING IN FIXED BED USING CHAR RESIDUES FROM THE WOOD GASIFICATION

Saiman DING, KTH Royal Institute of Technology, SWEDEN
Co-authors: E. Kantarelis, K. Engvall, KTH, Stockholm, Sweden

2CV.4.4
EXPERIMENTAL INVESTIGATION OF THE SORPTION ENHANCED GASIFICATION OF BIOMASS IN A DUAL FLUIDIZED BED PILOT PLANT

Selina HAFNER, Institute of Combustion and Power Plant Technology, Decentralized Energy Conversion Dpt., GERMANY
Co-authors: M. Schmid, R. Spörl, G. Scheffknecht, Institute of Combustion and Power Plant Technology (IFK), University of Stuttgart, Germany

2CV.4.6
GASIFICATION OF MICROALGAE WASTE ON SUPERCRITICAL WATER CONDITION

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

Co-author: P. R. NURCAHYANI, Hiroshima University, Higashi-Hiroshima, Japan

2CV.4.8**EXPERIMENTAL ASSESSMENTS ON DIFFERENT WASTE FEEDSTOCKS IN A BFB GASIFIER**

Vitaliano CHIODO, CNR-ITAE, ITALY

Co-authors: S. Maisano, F. Cipiti, F. Urbani, CNR-ITAE, Messina, Italy; M. Prestipino, A. Galvagno, Università di Messina, Italy

2CV.4.9**BIOMASS GASIFICATION: THE EFFECT OF EQUIVALENCE RATIO ON SYNGAS QUALITY IN THE CASE OF EXTERNALLY HEATED REACTOR**

Francesco GALLUCCI, CREA-IT, ITALY

Co-authors: R. Liberatore, ENEA, Roma, Italy; L. Sapegno, E. Volponi, P. Venturini, F. Rispoli, DIMA-University of Rome La Sapienza, Italy; E. Paris, M. Carnevale, CREA-IT, Monterotondo, Italy

2CV.4.10**ANALYSIS OF THE GASIFICATION RATE OF BIOMASS IN A CONTINUOUS PARTICLE-FED SOLAR-RADIATED GASIFIER**

Houssame BOUJJAT, CEA_INES, Isère, FRANCE

Co-authors: S. Chuayboon, S. Abanades, PROMES, Font-Romeu, France; S. Abanades, S. Rodat, CEA-LITEN, Grenoble, France

2CV.4.11**PERFORMANCE COMPARISON OF AIR AND OXYGEN BLOWN BIOMASS DOWNDRAFT GASIFICATION FOR SMALL-SCALE SYNGAS PRODUCTION**

Nerijus STRIUGAS, Lithuanian Energy Institute, Laboratory of Combustion Processes, LITHUANIA

Co-author: K. Zakarauskas, Lithuanian Energy Institute, Kaunas, Lithuania

2CV.4.14**BIOMASS AND WASTE GASIFICATION FOR THE PRODUCTION OF METHANOL**

Eleni LIAKAKOU, ECN part of TNO, Biomass & Energy Efficiency Dpt., THE NETHERLANDS

Co-authors: E. Boymans, S. Grootjes, M. Saric, B. Vreugdenhil, ECN part of TNO, Petten, The Netherlands

2CV.4.15**EXPERIMENTAL INVESTIGATION OF BED MATERIALS EFFECTS ON CONTINUOUS SOLAR-DRIVEN STEAM GASIFICATION OF BIOMASS IN A CONICAL SPOUTED-BED CAVITY REACTOR**

Houssame BOUJJAT, CEA_INES, Isère, FRANCE

Co-authors: S. Rodat, CEA, Grenoble, France; S. Abanades, S. Chuayboon, CNRS/PROMES, Odeillo, France

2CV.4.17**CHEMICAL FRACTIONATION OF ASH CONSTITUENTS IN ENTRAINED FLOW GASIFICATION OF STRAW**

Konrad MIELKE, Forschungszentrum Jülich, Institute for Energy and Climate Research, GERMANY

Co-author: M. Müller, Forschungszentrum Jülich, Germany

2CV.4.18**CATALYTIC REFORMING OF TAR USING BIOCHAR AS A CATALYST**

Yurong LIU, Curtin University, FETI Dpt., AUSTRALIA

Co-authors: M. Paskevicius, V. Sofianos, H. Wang, J. Veder, M. Akhtar, G. Parkinson, C.-Z. Li, Curtin University, Perth, Australia

2CV.4.19**THERMODYNAMIC MODEL FOR THE ASH FRACTION BEHAVIOR IN BIOMASS GASIFICATION USING THE CANTERA TOOL WITH THE NASA POLYNOMIAL APPROACH**

Matteo PECCHI, Free University of Bolzano, Science and Technology Dpt., ITALY

2CV.4.20**HYDRODYNAMICS OF BUBBLING FLUIDIZED BEDS FOR BIOMASS GASIFICATION: INFLUENCE OF PARTICLE-DRAG WITHIN AN EULERIAN GRANULAR MODEL**

Muhammad Ali UZAIR, Politecnico di Bari, ITALY

Co-authors: S. M. Camporeale, F. Fornarelli, M. Torresi, Polytechnic University of Bari, Italy

2CV.4.23**MODELING, OPTIMIZATION AND VALIDATION OF ENTRAINED FLOW BIOMASS GASIFIER FOR SYNGAS PRODUCTION FOR FT-SYNTHESIS**

Koteswara PUTTA, Norwegian University of Science and Technology, Chemical Engineering Dpt., NORWAY

Co-authors: K. Rout, SINTEF Materials and Chemistry, Trondheim, Norway; E. Rytter, E. Blekkan, M. Hillestad, Norwegian University of Science and Technology, Trondheim, Norway

2CV.4.24**PLASMA REACTOR FOR INVESTIGATION OF BIOMASS HIGH TEMPERATURE GASIFICATION**

Josef Grischa KAHLEN, Millenium Plasma, CZECH REPUBLIC

Co-authors: A. Liavonchyk, I. Khvedchyn, A.V.Luikov Heat and Mass Transfer Institute of the National Academy of Sciences of Belarus, Minsk, Belarus; M. Krikava, G. Kahlen, Millenium Technologies, Praha, Czech Republic

15:00 - 15:15**BREAK****Visual presentations | 3CV.5 | 15:15 - 16:45 | Poster area
BIOREFINERY ASSESSMENTS AND PROCESSING****CHAIRPERSONS:****Krystian BUTLEWSKI**, Institute of Technology and Life Sciences, Biomass Processing Technologies Dpt., POLAND*Invited***3CV.5.1****DATABASE AND PREDICTION TOOL FOR BIOMASS GASIFICATION PRODUCT GAS COMPOSITION**

Petr SEGHMAN, Czech Technical University in Prague, Process Engineering Dpt., CZECH REPUBLIC

Co-authors: T. Jirout, L. Krátký, Czech Technical University in Prague, Czech Republic

3CV.5.2**ESTABLISHING VIABLE PATHWAYS FOR INCREASING BIOFUEL PRODUCTION FROM UK WASTES & RESIDUES**

Katie CHONG, Aston University, Chemical Engineering Dpt., UNITED KINGDOM

Co-author: J. Lad, Aston University, Birmingham, United Kingdom

3CV.5.3**COMPREHENSIVE VALORIZATION OF BIOMASS WITH GREEN SOLVENTS**

Rafal LUKASIK, National Laboratory for Energy and Geology, Unit of Bioenergy, PORTUGAL

3CV.5.4**WASTEWATER VIRTUAL BIREFINERIES- MICROALGAE, BIOPLASTICS AND FERTILIZERS**

Carla SILVA, IDL, FCiencias.ID, Engenharia Geográfica, Geofísica e Energia Dpt., PORTUGAL

Co-author: L. Gouveia, LNEG, Lisbon, Portugal

3CV.5.6**ADVANCED BIREFINERIES FOR A SUSTAINABLE WASTE DIVERSION**

Lisa HANKE, Enerkem Inc, Government Affairs, CANADA

3CV.5.8**CFD SIMULATION STUDY OF MASS TRANSFER PERFORMANCE IN A BUBBLE COLUMN FOR APPLICATIONS IN SYNGAS FERMENTATION**

Mauro TORLI, Technical University of Denmark, Chemical and Biochemical Engineering Dpt., DENMARK

Co-authors: G. Kontogeorgis, P. L. Fosbøl, Center for Energy Resources Engineering, Technical University of Denmark, Lyngby, Denmark

3CV.5.9**SUSTAINABLE MICROALGAE BIOREFINERY DEVELOPMENT THROUGH PROCESS OPTIMIZATION**

Luis COSTA, A4F Algae for Future, PORTUGAL

Co-authors: A. Ramires Ferreira da Silva, Faculdade de Engenharia da Faculdade do Porto, Portugal; N.S. Caetano, Instituto Superior de Engenharia do Porto, Portugal; C. Brazinha, Universidade Nova de Lisboa, Portugal

3CV.5.10**POTENTIAL OF GULUPA (PURPLE PASSION FRUIT) WASTE FOR BIOREFINERIES**

Gabrielle MORANTES, Universidad de Los Andes, Chemical Engineering Dpt., COLOMBIA

Co-authors: D. D. Duran-Aranguren, L. Bernal-Alvarez, M. A. Peña, R. Sierra, Universidad de Los Andes, Bogotá, Colombia

3CV.5.12**TECHNO-ECONOMIC OPTIMIZATION OF A NEW BIOMASS-TO-LIQUID CONCEPT**

Felix HABERMEYER, German Aerospace Center, Alternative Fuels Dpt., GERMANY

Co-authors: S. Maier, R.-U. Dietrich, German Aerospace Center (DLR), Stuttgart, Germany; S. Tuomi, J. Kihlmann, VTT Technical Research Centre of Finland Ltd, Espoo, Finland; M. Selinsek, INERATEC GmbH, Karlsruhe, Germany

3CV.5.13**POTENTIAL USE OF THE DRIED BIOMASS OF CANDIDA GUILLIERMONDII FTI20037 IN THE CONTEXT OF A SUGARCANE BIOREFINERY.**

Andrés HERNANDEZ-PEREZ, Universidade de São Paulo, Escola de Engenharia de Lorena, BRAZIL

Co-authors: F. Machado Jofre, A. Felipe Hernandez-Perez, S. Souza Queiroz, H. Azank dos Santos, M.G. Almeida Felipe, EEL-USP, Lorena, Brazil

3CV.5.14**DESIGNING AN INTEGRATED THERMOCHEMICAL BIOREFINERY WITH A NOVEL HYDROGEN RECYCLING CONCEPT**

Kyriakos PANOPOULOS, Centre For Research & Technology Hellas, Chemical Process & Energy Resources Institute, GREECE

Co-authors: M. Bampaou, A. Papadopoulos, S. Bezergianni, S. Voutetakis, CERTH, Thessaloniki, Greece; P. Seferlis, AUTH, Thessaloniki, Greece

3CV.5.17**EFFICIENT PRODUCTION OF SUGARS - AND LIGNIN STREAMS USING ETHANOL-BASED ORGANOSOLV PRETREATMENTS**

Florbela CARVALHEIRO, LNEG - Laboratório Nacional de Energia e Geology, Unidade de Bioenergia, PORTUGAL

Co-authors: F. Pires, L.C. Duarte, F. Gírio, LNEG, Lisbon, Portugal

3CV.5.18**EXPLOITING A NEW LIGNOCELLULOSIC BIOREFINERY MODEL BASED ON THE USE OF NON-CONVENTIONAL YEASTS FOR C5 AND C6 FERMENTATION**

Celina YAMAKAWA, Technical University of Denmark, Center for Biosustainable, DENMARK

Co-authors: L. Kastell, M. R. Mahler, J. L. M. Ruiz, DTU, Kogens Lyngby, Denmark; S. I. Mussatto, DTU Biosustain, Kogens Lyngby, Denmark

3CV.5.19**INTEGRATION OF GASIFICATION AND SYNGAS FERMENTATION TO PRODUCE BIOCHEMICAL ADDED VALUE COMPOUNDS**

Marta PACHECO, LNEG - Laboratório Nacional de Energia e Geologia, Unidade de Bioenergia, PORTUGAL

Co-authors: F. Pinto, P. Moura, R. André, P. Marques, R. Mata, F. Gírio, National Laboratory for Energy and Geology, Lisbon, Portugal

3CV.5.22**PRODUCTION OF BIOFUELS AND BIOPRODUCTS FROM MICROALGAE USING IONIC LIQUID BASED PROCESSES.**

Luis Fernando BAUTISTA, Universidad Rey Juan Carlos, Chemical and Environmental Technology, SPAIN

Co-authors: J. J. Espada, A. Piera, J. Sánchez, G. Vicente, R. Rodríguez, Universidad Rey Juan Carlos, Madrid, Spain

3CV.5.23**MOLASSES CANE SUGAR ESTERILIZATION BY ELECTROM BEAM FOR ETHANOL PRODUCTION**

Rubens P. CALEGARI, University of São Paulo, CENA, BRAZIL

Co-authors: E.A. Silva, University of São Paulo, São Paulo, Brazil; A.P.M. Silva, M.R.B. Oliveira, L.A. Mota, V. Arthur, A.S. Baptista, University of São Paulo, Piracicaba, Brazil

3CV.5.26**IN SITE PRODUCED AND COMMERCIALY AVAILABLE ALKALI-ACTIVE XYLANASES COMPARED FOR XYLAN EXTRACTION FROM SUGARCANE BAGASSE**

Adriane MILAGRES, University of São Paulo, Biotechnology Dpt., BRAZIL

Co-authors: M. Santos, F. Reinoso, V. Tavila, A. Ferraz, University of São Paulo, Lorena, Brazil

3CV.5.30**COMPLETE EXPLOITATION OF EUCALYPTUS NITENS: OPTIMIZATION OF HYDROTHERMAL CONVERSION OF ITS CELLULOSE FRACTION TO LEVULINIC ACID AND BUTYL LEVULINATE**

Claudia ANTONETTI, University of Pisa, Chemistry and Industrial Chemistry Dpt., ITALY

Co-authors: S. Gori, D. Licursi, S. Frigo, M. Antonelli, A.M. Raspolli Galletti, University of Pisa, Italy; M. López Rodríguez, J.C. Parajó, University of Vigo, Italy

3CV.5.32**LIFE CYCLE ASSESSMENT OF A SMALL-SCALE INTEGRATED BIOREFINERY BASED ON OLIVE TREE PRUNING BIOMASS**

Ana Isabel SUSMOZAS, CIEMAT, Energy Dpt., SPAIN

Co-authors: D. Iribarren, IMDEA Energy, Móstoles, Spain; P. Manzanares, M. Ballesteros, CIEMAT, Madrid, Spain

3CV.5.36**VALORIZATION OF LIGNIN BY COBALT-CATALYZED FRACTIONATION OF LIGNOCELLULOSE**

Davide DI FRANCESCO, Stockholm University, Organic Chemistry Dpt., SWEDEN

Co-authors: S. Rautiainen, J. Samec, Stockholm University, Sweden; S. Katea, G. Westin, Uppsala University, Sweden; D. Tungasmita, Chulalongkorn University, Bangkok, Thailand

**Visual presentations 2CV.6 | 15:15 - 16:45 | Poster area
ADVANCES IN ANAEROBIC DIGESTION PROCESSES****CHAIRPERSONS:****Alessandro AGOSTINI**, ENEA Research Centre, DTE-STS Dpt., ITALY**Jens Bo HOLM-NIELSEN**, Aalborg University, Energy Technology Dpt., DENMARK**2CV.6.5****EVALUATION OF MICROBIAL INDICATORS IN THE ANAEROBIC DIGESTION OF KITCHEN WASTE**

Mabel Juliana QUINTERO, Universidad Industrial de Santander, COLOMBIA

Co-authors: M. Alzate, H. Escalante, Universidad Industrial de Santander, Bucaramanga, Colombia

2CV.6.6**EVALUATION OF METHANE PRODUCTION BY ANAEROBIC BIOMASS USING SURFACTANT AS A SUBSTRATE**

Kelly DUSSAN, Universidade Estadual Paulista - UNESP, Biochemical and Chemical Technology Dpt., BRAZIL

Co-authors: L.G. Shimura, A. Sarti, K.J. Dussan Medina, M.A.M. Costa, L.O. Pires, Sao Paulo State University - Unesp, Araraquara, Brazil

2CV.6.7**EFFECT OF ATTRITION BALL MILL PRETREATMENT ON ENHANCING SOLUBILIZATION AND BIOGAS PRODUCTION OF ORGANIC FOOD WASTE**

Jin Hyung LEE, Korea Institute of Ceramic Engineering and Technology, Energy and Environment Division, KOREA

Co-authors: Y.M Gu, H.R. Byun, Korea institute of ceramic engineering and technology, Jinju, Korea; H. Kim, University of

Seoul, Korea

2CV.6.9**MESOPHILIC AND THERMOPHILIC BACTERIA IN ANAEROBIC DIGESTION PROCESS**

Atalie Verra-Victoria DJOSSOU, University of Padova, Biology Dpt., ITALY

Co-authors: F. Conti, University of Padova, Padua, ITALY

2CV.6.12**OPTIMISATION AND MODELLING OF ANAEROBIC DIGESTION OF MICROWAVE PRE-TREATED WHISKY DISTILLERY/BREWERY CO-PRODUCTS**

Burcu GUNES, Dublin City University, School of Biotechnology, IRELAND

Co-authors: K. Benyounis, J. Stokes, School of Mech. & Manu. Eng. Dublin City University, Ireland; P. Davis, School of Business, Dublin City University, Ireland; C. Connolly, Alltech European Bioscience Centre, Summerhill Road, Dunboyne, Meath, Ireland; J. Lawler, School of Biotechnology, Dublin City University, Ireland

2CV.6.19**OPTIMIZATION OF FEEDSTOCK PRE-TREATMENT FOR ANAEROBIC DIGESTION BY IN-LINE PARTICLE SIZE DISTRIBUTION MONITORING WITH LASERLIGHT BACKREFLECTION**

Stefan JUNNE, TU Berlin, Bioprocess Engineering Dpt., GERMANY

Co-author: P. Neubauer, TU Berlin, Germany

2CV.6.21**TEMPERATURE INFLUENCE ON MICROBIAL DIVERSITY AND REACTOR PERFORMANCE IN SYNGAS BIO-UPGRADING INTO RNG PROCESS**

Ruxandra ALBU CIMPOIA, National Research Council Canada, Energy, Mining and Environment Dpt., CANADA

Co-authors: R. Cimpoia, S.R. Guiot, C.D. Dube, G. Bruanr, M.J. Levesque, J.C. Frignon, National Research Council Canada, Montreal, Canada

2CV.6.22**BIOGAS PRODUCTION USING DIFFERENT GRANULOMETRIES OF SUGARCANE BAGASSE**

Franciele FOSSALUZA, University at São Paulo, chemistry engineer, BRAZIL

Co-authors: I. Zamboni, P. Moreira Junior, R. Schneider, C. Oller do Nascimento, University of São Paulo, Brazil

2CV.6.23**ANAEROBIC CO-DIGESTION OF PRETREATED FOOD WASTE AND MEAT-BONE MEAL**

Boris COSIC, SDEWES Centre, CROATIA

Co-authors: R. Bedoic, T. Puksec, N. Duic, University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Croatia; A. Spehar, Agroproteinka, Sesvete, Croatia

2CV.6.25**BIOGAS UPGRADING THROUGH NAOH CHEMICAL ABSORPTION: UNDERSTANDING THE HYDRODYNAMICS OF A PACKED TOWER FOR A REGENERATIVE-SUSTAINABLE PROCESS**

Francisco Manuel BAENA-MORENO, University of Seville, Chemical and Environmental Engineering Dpt., SPAIN

Co-authors: D.S. Sebastia-Saez, University of Surrey, Guildford, United Kingdom; M. Rodríguez-Galán, F. Vega, L.F. Vilches, B. Navarrete, University of Seville, Spain

16:45 - 17:00**BREAK****Visual presentations 3CV.7 | 17:00 - 18:30 | Poster area
FROM FEEDSTOCK TO BIO-ALCOHOLS PRODUCTION****CHAIRPERSONS:****Yukihiko MATSUMURA**, Hiroshima University, Energy and Environmental Engineering Division, JAPAN**3CV.7.4****ISOLATION AND CHARACTERIZATION OF A NOVEL CELLULOLYTIC ACTIVITY FROM A HOT SPRING THERMOPHILIC ALYCCICLOBACILLUS SP**

Loredana MARCOLONGO, CNR - National Research Council of Italy, Research Institute on Terrestrial Eco-systems, ITALY

Co-authors: G. del Monaco, F. La Cara, E. Ionata, National Research Council of Italy, Naples, Italy

3CV.7.6**IMPROVEMENT IN EXTRUSION AND ENZYMATIC HYDROLYSIS FF BLUE BAGASSE AGAVE FOR BIOETHANOL PRODUCTION**

Carmina MONTIEL, Universidad Nacional Autónoma de México, MEXICO

Co-authors: O Hernández-Meléndez, F Miguel-Cruz, E Bárzana, UNAM, Mexico

3CV.7.7**A FIRST APPROACH TO THE USE OF OLIVE STONE FOR BIOETHANOL AND BIOPRODUCTS PRODUCTION IN AN OLIVE RESIDUES-BASED BIOREFINERY: BIOMASS FRACTIONATION BY STEAM EXPLOSION**

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

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

3CV.7.9**METABOLIC ANALYSIS OF BIOBUTANOL PRODUCTION BY A NEWLY CLOSTRIDIUM SP. STRAIN WK WITH HIGH BUTYRATE-TOLERANT AND PH INDEPENDENT PROPERTIES**

Chaoyang CHEN, Shantou University, Biology Dpt., P.R. CHINA

Co-author: Y. R. Wu, Department of Biology, Shantou University, Guangdong, P.R. China

3CV.7.10**LIGNIN MODIFICATION WITH LACCASES PRODUCED BY PLEUROTUS OSTREATUS**

Melissa Andrea Carolina TORRES ACOSTA, Universidad de los Andes, COLOMBIA

Co-authors: L.J. Cruz-Reina, M. Torres-Acosta, D. Durán-Sequeda, J.S. Chirivi-Salomón, R. Sierra, Universidad de los Andes, Bogotá, Colombia

3CV.7.11**PRETREATMENT OF MISCANTHUS: OPTIMIZATION OF HIGH-SHEAR EXTRUSION FOR ITS ENZYMATIC HYDROLYSIS**

Vanja JURISIC, University of Zagreb, Faculty of Agriculture, Department of Agricultural Technology, Storing and Transport, CROATIA

Co-authors: J.L. Julson, South Dakota State University, Brookings, Usa; N. Bilandzija, N. Voca, A. Matin, T. Kricka, University of Zagreb Faculty of Agriculture, Croatia

3CV.7.13**LACCASE PRODUCTION AND DELIGNIFICATION FROM WHITE-ROT FUNGI IN CO-CULTURE**

Catalina VILLARREAL GOMEZ, Universidad de Los Andes, Chemical Engineering Dpt., COLOMBIA

Co-authors: C.S. Cardenas-Bustos, R. Sierra, C. Villarreal, S. Delgado, J.E. Prieto-Vivas, Universidad de los Andes, Bogota, Colombia; J.S. Chirivi-Salimon, Universidad Nacional Abierta y a Distancia, Bogota, Colombia

3CV.7.14**CO-CULTURE OF PLEUROTUS OSTREATUS WITH SACCHAROMYCES SEREVIECEA OR CANDIDA UTILIS IN RICE HUSK FOR LACCASE PRODUCTION**

Carla Stephanny CARDENAS-BUSTOS, Universidad de los Andes, Bogotá Dpt., COLOMBIA

Co-authors: R. Sierra, N. Salcedo-Galvez, C.A. Ramirez-Manrique, N. Navarro, L. Gonzalez, Universidad de los Andes, Bogota, Colombia; J.S. Chirivi-Salimon, Universidad Nacional Abierta y a Distancia, Bogota, Colombia

3CV.7.17**STUDY OF RICE HUSK BIOLOGICAL PRE-TREATMENT WITH PLEUROTUS OSTREATUS**

Luis Jorge CRUZ REINA, Universidad de Los Andes, Chemical Engineering Dpt., COLOMBIA

Co-authors: L.J. Cruz-Reina, C. Gonzalez-Camacho, K. Franco, D. Durán-Sequeda, J.S. Chirivi-Salomón, R. Sierra, Universidad de los Andes, Bogotá, Colombia

3CV.7.18

INDUCTION OF LACCASES ISOENZYMES PRODUCTION BY PLEUROTUS OSTREATUS WITH LIGNO-CELLULOSE DERIVED COMPOUNDS AND COPPER: EFFECTS ON ENZYMATIC PRETREATMENT OF RICE HUSK

Dinary Eloisa DURAN, Universidad de los Andes, Bogotá D.C, COLOMBIA
Co-authors: D. Durán-Sequeda, K. Lozano, R. Sierra-Rámirez, Universidad de los Andes, Bogotá, Colombia

3CV.7.19

COMPARATIVE STUDY OF ALCOHOLIC FERMENTATION OF HYDROLYSATES FROM WASTE OF PHOENIX DACTYLIFERA L. - USING PACHYSOLEN TANNOPHILUS AND SACCHAROMYCES CEREVISIAE

Sebastián SÁNCHEZ VILLASCLARAS, University of Jaén, Chemical Engineering, Environmental and Materials Dpt., SPAIN
Co-authors: Y. Antit, I. Olivares, University of Jaén, Spain; K. Zaafouri, M. Handi, Carthage University, Tunis, Tunisia

3CV.7.26

BIOTECHNOLOGICAL FURFURAL PRODUCTION FROM SUGARCANE STRAW AND BAGASSE MIXTURE

Kelly DUSSAN, Universidade Estadual Paulista - UNESP, Biochemical and Chemical Technology Dpt., BRAZIL
Co-authors: G. Mello, B. Floriam, D. Silva, UNESP, Araraquara, Brazil

3CV.7.27

EFFECT OF THE DIFFERENT ALUMINIUM SULPHATE CATALYSED HYDROLYSIS CONDITIONS ON THE CONTENT OF POLYSACCHARIDES IN THE RESIDUE AFTER FURFURAL PRODUCTION

Janis RIZIKOV, Latvian State Institute of Wood Chemistry, Biorefinery Laboratory Technological Research Dpt., LATVIA
Co-authors: P. Brazdauskas, J. Rizikovs, M. Puke, R. Tupciauskas, Latvian State Institute of Wood Chemistry, Riga, Latvia

3CV.7.29

MICROWAVE-ASSISTED HYDROLYSIS OF GIANT REED HEMICELLULOSE IN THE PRESENCE OF AMBERLYST-70 AS HETEROGENEOUS CATALYST

Nicola DI FIDIO, University of Pisa, Chemistry and Industrial Chemistry Dpt., ITALY
Co-authors: S. Fulignati, C. Antonetti, A. M. Raspolli Galletti, University of Pisa, Italy

3CV.7.30

BIOMASS ALCOHOLYSIS TO BUTYL LEVULINATE AND VALORISATION AS ADDITIVE IN CI INTERNAL COMBUSTION ENGINE

Gianluca CAPOSCIUTTI, University of Pisa, Energy, Systems, Territory and Constructions Engineering Dpt., ITALY
Co-authors: A.M. Raspolli Galletti, S. Gori, G Pasini, M Antonelli, S Frigo, Univerity of Pisa, Italy

3CV.7.31

COMPARATIVE ASSESSMENT OF BIO-ETHANOL PRODUCTION FROM IMMOBILIZED CO-CULTURES OF ZYMOMONAS MOBILIS AND SACCHAROMYCES CEREVISIAE.

Saurabh SINGH, Lovely Professional University, School of Bioengineering and Biosciences, INDIA
Co-authors: H. Rathva, C. Chopra, R. Chopra, Lovely Professional University, Phagwara, India

3CV.7.32

INCIDENCE OF FLOCCULENT YEAST STRAINS IN ETHANOL PRODUCTION PROCESS

Maria da Graça STUPIELLO ANDRIETTA, Universidade de Campinas, BRAZIL
Co-authors: M.G.S. Andrietta, P.R. Kitaka, S.R. Andrietta, C. Steckelberg, UNICAMP, Campinas, Brazil

3CV.7.34

A COMPARATIVE STUDY ON THE PRETREATMENT OF REED USING DILUTE FORMIC ACID OR INORGANIC ACIDS FOR SUGAR RECOVERY

Gert-Jan EUVERINK, University of Groningen, Engineering and Technology Institute Groningen, THE NETHERLANDS
Co-authors: Y. Li, H.J. Heeres, University of Groningen, The Netherlands

3CV.7.35

BUTANOL PRODUCTION FROM SUGARCANE MOLASSES BY CLOSTRIDIUM BEIJERINCKII USING PH CONTROLLING AND GAS STRIPPING TECHNIQUES

Pattana LAOPAIBOON, Khon Kaen University, Biotechnology Dpt., Faculty of Technology, THAILAND
Co-authors: K. Wechgama, Department of Agricultural Technology and Environment, Faculty of Sciences and Liberal Arts, Rajaman, Nakhon Ratchasima, Thailand; L. Laopaiboon, Department of Biotechnology, Faculty of Technology, Khon Kaen, Thailand

3CV.7.36

PRELIMINARY STUDY OF CONTINUOUS ETHANOL FERMENTATION USING LOW-COST CELL RECYCLING SYSTEM

Lakkana LAOPAIBOON, Khon Kaen University, Biotechnology Dpt., Faculty of Technology, THAILAND
Co-authors: N. Phuoketphim, P. Laopaiboon, Department of Biotechnology, Faculty of Technology, Khon Kaen University, Thailand

**Visual presentations 2CV.8 | 17:00 - 18:30 | Poster area
ANAEROBIC DIGESTION FOR BIOGAS AND BIOMETHANE PRODUCTION**

CHAIRPERSONS:

Mathieu DUMONT, Netherlands Enterprise Agency (RVO.nl), National Programms, THE NETHERLANDS
Bernhard DROSG, Bioenergy 2020+, AUSTRIA

2CV.8.5

ANAEROBIC DIGESTION OF BROAD BEANS, MAIZE SILAGE AND ZEPHYR

Vilis DUBROVSKIS, Latvia University of Life Sciences and Technologies culture, Institute of Energetics, LATVIA
Co-authors: I. Plume, Latvia University of Life Sciences and Technologies, Jelgava, Latvia; I. Straume, Latvia University of Life Sciences and Technologies, Jelgava, Latvia

2CV.8.13

MODEL OF A MONOSUBSTRATE FLOW BIOGAS REACTOR WITH AN ADHESIVE DEPOSIT

Grzegorz WALOWSKI, Institute of Technology and Life Sciences in Falenty, Renewable Energy Resources Dpt. Branch Poznan, POLAND

2CV.8.22

SIMULATIONS OF THE FLUID DYNAMICS IN A SCALEDOWN LABORATORY DIGESTER

Marta FAZZI, Università degli Studi di Padova, Biology Dpt., ITALY
Co-authors: F. Conti, A. Saidi, M. Goldbrunner, Technische Hochschule Ingolstadt, Ingolstadt, Germany

2CV.8.23

TWO-STAGE BIOHYDROGEN AND BIOMETHANE PRODUCTIONS FROM DOMESTIC SEWAGE MIXED WITH KITCHEN WASTE IN SEQUENCING BATCH REACTOR

Chen-Yeon CHU, Feng Chia University, Master's Program of Green Energy Science and Technology, TAIWAN
Co-author: H.-C. Su, Feng Chia University, Taichung, Taiwan

2CV.8.26

ANAEROBIC CO-DIGESTION OF SOYBEAN MOLASSES AND GLYCEROL IN HAIS REACTOR

Arnaldo SARTI, São Paulo State University, Chemistry Institute, BRAZIL
Co-authors: F. Batista, B. Mello, B. Rodrigues, L. Melo, Sao Paulo State University, Araraquara, Brazil

2CV.8.27

BIOGAS UPGRADING FIELD TESTS WITH A SOLID AMINE SORBENT TSA-BENCH SCALE UNIT

Elisabeth SONNLEITNER, TU Wien, Institut für Verfahrenstechnik, AUSTRIA
Co-authors: J. Pirklbauer, J. Fuchs, G. Schöny, H. Hofbauer, TU Wien, Austria

2CV.8.28

BIO-HYDROGEN PRODUCTION FROM ACID-MICROWAVE-PRETREATED NAPIER GRASS HYDROLYSATE

Allisara REUNGSANG, University of Khon Kaen, Biotechnology Dpt., THAILAND
Co-author: U. Jomnonkhaow, Khon Kaen University, Muang, Thailand

2CV.8.29

METHANE RECOVERY FROM BIOETHANOL PRODUCTION WASTE USING NITROGEN AND FLUE GAS EXPLOSIVE DECOMPRESSION PRETREATMENT

Lisandra ROCHA-MENESES, Estonian University of Life Sciences, Institute of Technology, Chair of Biosystems Engineering, ESTONIA

Co-authors: A. Ivanova, Tallinn University of Technology, Estonia; G. Atouguia, University of the Azores, Azores, Portugal; I. Avila, University of the Azores, Portugal; K. Orupöld, T. Kikas, Estonian University of Life Sciences, Tartu, Estonia

2CV.8.30**OPTIMISATION OF GAS PRODUCTION IN A BIOGAS PLANT BY IMPROVING PROCESS MIXING**

Hanne SOININEN, South-Eastern Finland University of Applied Sciences, FINLAND

Co-authors: T. Saario, S. Mörsky, South-Eastern Finland University of Applied Sciences, Mikkeli, Finland

2CV.8.31**INTEGRATED MANAGEMENT OF SEWAGE SLUDGE AND OLIVE OIL PRODUCTION CHAIN WASTE: IMPROVING CONVERSION PROCESS INTO BIOMETHANE**

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

Co-authors: A.C. Henriques, J. Gominho, E. Duarte, ISA-UL, Lisbon, Portugal; J.M. Ochando-pulido, University of Granada, Spain

2CV.8.32**SINGLE AUTUMNAL HARVEST PROVIDES HIGHER BIOMASS AND METHANE YIELD THAN DOUBLE HARVESTS OF GIANT REED (ARUNDO DONAX L.)**

Enrico CEOTTO, CREA- Council for Agricultural Research and Economics, Research Centre for Agriculture and Environment, ITALY

Co-authors: C. Vasmara, R. Marchetti, CREA-ZA, San Cesario S/P, Italy; S. Cianchetta, S. Galletti, CREA-AA, Bologna, Italy

2CV.8.35**LOW COST DISPOSAL OF SOYBEAN MOLASSES USING ANAEROBIC TREATMENT**

Arnaldo SARTI, São Paulo State University, Chemistry Institute, BRAZIL

Co-authors: B. Rodrigues, F. Batista, K. Medina, B. Mello, Sao Paulo State University, Araraquara, Brazil

2CV.8.40**ENZYMATIC HYDROLYSIS OF DAIRY COW EFFLUENT: HEMICELLULASE AND LACCASE EFFECTS**

Isabel Paula MARQUES, LNEG - Laboratório Nacional de Energia e Geologia, Unidade de Bioenergia, PORTUGAL

Co-authors: A. Eusébio, S. Marques, LNEG, Lisboa, Portugal; A. Morana, G. Squillaci, E. Ionata, F. La Cara, IRET-CNR, Naples, Italy

2CV.8.41**IMPROVING ENERGY EFFICIENCY IN SMALL-SCALE BIOGAS-POWERED SOLID OXIDE FUEL CELL SYSTEMS BY CO₂ REMOVAL AND BIDIRECTIONAL OPERATION**

Jeremias WEINRICH, Technical University of Munich, GERMANY

Co-authors: S. Herrmann, F. Fischer, M. Hauck, H. Spliethoff, Technical University of Munich, Garching, Germany; M. Gaderer, Technical University of Munich, Straubing, Germany

2CV.8.42**ENERGY CONVERSION OF POLYMERIC RESIDUES IN CO-GASIFICATION WITH PINE BIOMASS IN A DOWNDRAFT REACTOR**

Roberta MOTA PANIZIO, Instituto Politécnico de Portalegre, PORTUGAL

Co-authors: P.S.D. Brito, L.F.C. Calado, VALORIZA - Research Center for Endogenous Resource Valorization, Portalegre, Portugal

Visual presentations 1DV.1 | 09:00 - 10:30 | Poster area**ALGAE PRODUCTION SYSTEMS: TECHNOLOGICAL INNOVATIONS AND APPLICATIONS****CHAIRPERSONS:**

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

Scott TURN, University of Hawaii, Hawaii Natural Energy Institute, USA

1DV.1.1**BIOMASS PRODUCTION POTENTIAL OF CHLORELLA PYRENOIDOSA USING OLIVE-MILL WASTEWATER, AND CARBON DIOXIDE BIOFIXATION**

Sebastián SÁNCHEZ VILLASCLARAS, University of Jaén, Chemical Engineering, Environmental and Materials Dpt., SPAIN

Co-authors: M. Maaitah, S. Sánchez, University of Jaén, Spain; G. Hodaifa, A. Malves, Pablo de Olavide University, Seville, Spain

1DV.1.3**CHARACTERIZATION OF THREE ALGAL STRAINS USED AS A TERTIARY TREATMENT FOR RURAL WASTEWATER OF ECUADORIAN LITTORAL**

Cesar MOREIRA, ESPOL Polytechnic University, Center of Alternative and Renewable Energy, ECUADOR

Co-authors: M. Aray-Andrade, V. Santander, L. Mendoza, R. Bermudez, ESPOL Polytechnic University, Guayaquil, Ecuador

1DV.1.6**ALGAE-BASED WASTEWATER TREATMENT IN WESTERN GERMANY**

Nicolai David JABLONOWSKI, Forschungszentrum Jülich, IBG-2 Dpt., GERMANY

Co-authors: C.M. Kuchendorf, S.D. Calahan, H. Klose, I. Meuser, L.N. Nedbal, Forschungszentrum Jülich, Germany

1DV.1.10**HYDRODYNAMICS AS A TOOL TO REMOVE BIOFILM IN TUBULAR PHOTOBIOREACTOR**

Terézia ZÁKOVÁ, Czech Technical University in Prague, Faculty of Mechanical Engineering, Process Engineering Dpt., CZECH REPUBLIC

Co-authors: T. Jirout, L. Krátký, Czech Technical University in Prague, Faculty of Mechanical Engineering, Process Engineering Dpt., Prague, Czech Republic

1DV.1.13**CULTIVATION OF MARINE MICROALGAE AS FEEDSTOCK FOR ANAEROBIC DIGESTION**

Cesar MOREIRA, ESPOL Polytechnic University, Center of Alternative and Renewable Energy, ECUADOR

Co-authors: Y. Zhang, N. Doan, B. Trump, S. Yang, E. Philips, S. Svoronos, P. Pullammanappallil, University of Florida, Gainesville, USA

1DV.1.15**MICROALGAE CULTIVATION CONDITIONS IN A LAB-SCALE PBR FOR THE DIRECTED PHOTOSYNTHETIC PRODUCTION OF DESIRED PRODUCTS: THE LIGHT SPECTRUM EFFECT**

Christos CHATZIDOUKAS, Aristotle University of Thessaloniki, Chemical Engineering Dpt., GREECE

Co-authors: P. Psachoulia, A. Karapatsia, Aristotle University of Thessaloniki, Greece

1DV.1.16**INFLUENCE OF THE LIGHT PARAMETERS ON THE KINETICS OF ALGAE GROWING**

Roman FEKETE, Czech Technical University in Prague, Faculty of Mechanical Engineering, Process Engineering Dpt., CZECH REPUBLIC

Co-authors: P. Peciar, M. Peciar, T. Žáková, Czech Technical University in Prague, Czech Republic

1DV.1.18**HYDROTHERMAL PRE-TREATMENT OF THE MICROALGAE SCENEDESMUS OBLIQUUS: AN APPROACH FOR SELECTIVE FRACTIONATION FOR BIOREFINERY APPLICATIONS**

Florbela CARVALHEIRO, LNEG - Laboratório Nacional de Energia e Geologia, Unidade de Bioenergia, PORTUGAL

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1DV.1.20

NUMERICAL ANALYSIS OF HYDRODYNAMIC CONDITIONS IN PILOT FLAT-PANEL PHOTOBIOREACTOR: OPERATING AND DESIGN PARAMETERS INFLUENCE ON THE MICROALGAE CULTIVATION

Vojtech BELOHLAV, Czech Technical University in Prague, Process Engineering Dpt., CZECH REPUBLIC
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1DV.1.21

EFFICIENT PRODUCTION OF BIO-OIL BY MARINE MICROALGAE SCHIZOCHYTRIUM SP.

Baekrock OH, Korea Research Institute of Bioscience and Biotechnology Research Institute of Bioscience and B, REPUBLIC OF KOREA
Co-authors: D.J. Ko, J.H. Ju, S.Y. Heo, J.W. Seo, C.H. Kim, Korea Research Institute of Bioscience and Biotechnology, Daejeon, Republic of Korea

1DV.1.22

PRELIMINARY STUDIES OF MICOSPORINES FOR THE CREATION OF REDUCING CREAMS AND SOLAR BLOCKERS BASED ON ALGAE PORPHYRA SPP, MAGELLAN (CHILE)

Camila Belén VIDAL PAREDES, Universidad de Magallanes, Marine Biology, CHILE

1DV.1.24

REMEDICATION OF PULP AND PAPER MILL EFFLUENT AND BIO-DIESEL PRODUCTION USING MIXED MICROALGAL CULTURES

Rajesh CHANDRA, Indian Institute of Technology Roorkee (Saharanpur Campus), Polymer and Process Engineering Dpt., INDIA
Co-authors: U.K. Ghosh, Indian Institute of Technology Roorkee (Saharanpur Campus), Saharanpur, India

1DV.1.25

PASSIVE SYSTEM FOR INTERNAL SURFACE CLEANING AND HOMOGENIZATION IN THE AIR-LIFT VERTICAL COLUMN PHOTOBIOREACTORS

Nicolò MORSELLI, Università degli Studi di Modena e Reggio Emilia, Engineering Dpt. E. Ferrari, ITALY
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1DV.1.26

PHYSIOLOGICAL PERFORMANCE OF MICROALGAE GROWN ON CENTRATE UNDER LIGHT/DARK AND CONTINUOUS REGIME

João Artur C. CÂMARA MANOEL, Laboratory of algal biotechnology, CZECH REPUBLIC
Co-authors: K. Ranglová, G. E. Lakatos, T. Grivalský, J. Masojidek, Centre ALGATECH, Institute of Microbiology, The Czech Academy of Sciences, Trebon, Czech Republic

**Visual presentations | 2DV.2 | 09:00 - 10:30 | Poster area
PRODUCTION, QUALITY ASSESSMENT AND SUPPLY OF SOLID BIOFUELS AND INTERMEDIATES**

CHAIRPERSONS:

Juan Esteban CARRASCO, CIEMAT, Renewable Energies Dpt., SPAIN
Guillaume BOISSONNET, Commissariat à l'Énergie Atomique, Biomass Project Dpt., FRANCE

2DV.2.1

ENERGY POTENTIAL OF MISCANHUS GROWN IN DIFFERENT CROATIAN AGRO-ECOLOGICAL CONDITIONS

Nikola BILANDŽIJA, University of Zagreb, Agricultural Engineering Dpt., CROATIA
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2DV.2.2

ANALYTICAL PROTOCOL FOR THE CHARACTERISATION OF SOLID ORGANIC FRACTIONS: CONTRI-

BUTION FOR THE BIOCHEMICAL AND THERMOCHEMICAL POTENTIAL ASSESSMENT OF BIOMASS

Mariana ABREU, Laboratório Nacional de Energia e Geologia (LNEG), Unidade de Bioenergia (UB), PORTUGAL
Co-authors: M.A. Trancoso, T. Crujeira, R. Sousa, S. Calisto, J. Branco, A.C. Oliveira, P.C. Passarinho, P. Moura, F. Girio, Laboratório Nacional de Energia e Geologia - LNEG, I.P. Lisboa, Portugal

2DV.2.3

CHARACTERIZATION OF CONSTRUCTION AND DEMOLITION WASTE AS RENEWABLE FEEDSTOCK FOR ALTERNATIVE JET FUEL PRODUCTION

Scott TURN, University of Hawaii, Hawaii Natural Energy Institute, USA
Co-author: J. Fu, University of Hawaii, Honolulu, Usa

2DV.2.7

DIRECT VACUUM DRYING TECHNOLOGY

Vaclav MAREK, University of West Bohemia, Mechanical Engineering Dpt., CZECH REPUBLIC

2DV.2.8

EVALUATION OF SCREENING AND DRYING AS PROCESS STEPS TO IMPROVE FUEL PROPERTIES OF LOW QUALITY WOOD CHIPS FOR USE IN SMALL-SCALE GASIFIER-CHP PLANTS

Simon LESCHKE, Technology and Support Centre, Solid Biofuels Dpt., GERMANY
Co-authors: D. Kuptz, H. Hartmann, TFZ, Straubing, Germany; T. Zeng, A. Pollex, J. Mühlenberg, DBFZ, Leipzig, Germany; G. Kuffer, Spanner Re, Neufahrn in Niederbayern, Germany

2DV.2.9

MULTI-BLADE MILLING FOR WOOD-POWDER PRODUCTION

David A. AGAR, Swedish University of Agricultural Sciences, Forest Biomaterials and Technology Dpt., SWEDEN
Co-authors: M. Rudolfsson, D. Fernando, S.L. Larsson, Swedish University of Agricultural Sciences, Umeå, Sweden

2DV.2.10

IMPROVING THERMAL PERFORMANCE OF RICE HUSK THROUGH BLENDS WITH RICE STRAW: PHYSICAL-CHEMICAL CHARACTERIZATION AND REACTION KINETICS IN INERT AND OXIDATIVE ATMOSPHERES

Raul Andres SERRANO BAYONA, Universidad Industrial de Santander, Mechanical Engineering Dpt., COLOMBIA
Co-authors: R. A. Serrano-Bayona, Y. J. Rueda-Ordóñez, Universidad Industrial de Santander, Bucaramanga, Colombia

2DV.2.11

UPGRADING OF SRC WILLOW CHIP BY WASHING AND TORREFACTION

David MAXWELL, University of Leeds, Energy Dpt., UNITED KINGDOM
Co-authors: B. Gudka, J. Jones, A. Williams, University of Leeds, United Kingdom; I. Shield, Rothamsted Research, Harpenden, United Kingdom

2DV.2.14

COMPARISON BETWEEN THE VALUES OF SINTERING AND DEPOSITION PREDICTIVE INDEXES AND THE EXPERIMENTAL RESULTS FROM AGROPELLETS COMBUSTION TESTS.

Roberto AREVALO, CIRCE Foundation, SPAIN
Co-authors: P. Canalís-Martínez, J. Royo, University of Zaragoza, Spain; F. Sebastian, CIRCE Foundation, Zaragoza, Spain

2DV.2.16

PRODUCTION AND CHARACTERISATION OF PELLETS FROM RICE STRAW AND RICE HUSK

Cristina MOLINER, University of Genova, ITALY
Co-authors: A. Lagazzo, E. Arato, B. Bosio, Università di Genova, Italy

2DV.2.19

BEEHIVE BRIQUETTES FOR RURAL DEVELOPMENT

Ramesh Man SINGH, Center for Energy and Environment Nepal, Biomass Energy Dpt., NEPAL

2DV.2.21

INNOVATIVE SOLUTION FOR SOLID BIOMASS DELIVERY AND MOBILE HEAT CONTAINERS TO REPLACE OIL-FIRED HEATING

Jarno FÖHR, Lappeenranta-Lahti University of Technology LUT, Laboratory of Bioenergy, FINLAND
Co-authors: R. KC, A. Karhunen, M. Laihanen, T. Ranta, Lappeenranta-Lahti University of Technology LUT, Finland

2DV.2.23

DESIGN FOR GREEN SUPPLY CHAIN OF EMPTY FRUIT BUNCH BASED ON LOGISTICS MODELING

Toshihiko NAKATA, Tohoku University, Management Science and Technology Dpt., JAPAN

2DV.2.24

ENHANCEMENT OF STORED LOGGING RESIDUE CHIPS THROUGH MECHANICAL SCREENING - A QUALITY VS. PRICE ANALYSIS

Marjan BOZAGHIAN, Swedish University of Agricultural Sciences, Forest Biomaterials and Technology Dpt., SWEDEN
Co-authors: T. de la Fuente, A. Grimm, M. Thyrel, D. Bergström, S.H. Larsson, Swedish University of Agricultural Sciences, Umeå, Sweden; M. Karjalainen, Luke, Kokkola, Finland; A. Strandberg, Umeå University, Sweden

Visual presentations 1DV.3 | 10:45 - 12:15 | Poster area
SUPPLY OF RESIDUES AND BY-PRODUCTS FROM AGRICULTURE AND FORESTRY

CHAIRPERSONS:

Tapio RANTA, Lappeenranta University of Technology, School of Energy Systems, FINLAND
Efthymia ALEXOPOULOU, CRES - Center for Renewable Energy Sources and Saving, Biomass Dpt., GREECE

1DV.3.1

SUSTAINABLE BIOMASS FEEDSTOCK OPTIONS FOR ADVANCED BIOFUELS

Myrsini CHRISTOU, CRES - Center for Renewable Energy Sources and Saving, Biomass Dpt., GREECE
Co-authors: E. Alexopoulou, CRES, Pikermi, Greece; A. Monti, W. Zegada-Lizarazu, A. Parenti, UNIBO, Bologna, Italy; J. Carrasco, C.M. Sastre, P. Ciria, CIEMAT, Madrid, Spain; L. Pari, A. Suardi, CREA, Rome, Italy

1DV.3.2

ASSESSMENT OF PINEAPPLE FIELD RESIDUE VALORISATION IN COSTA RICA

Wolter ELBERSEN, Wageningen UR, Biobased Products, THE NETHERLANDS
Co-authors: H.W. Elbersen, Wageningen Food & Biobased Research, The Netherlands; H. Huib Hengsdijk, Wageningen Plant Research, The Netherlands

1DV.3.4

EFFECTS OF MANAGEMENT PRACTICES ON CONVERSION OF GRASSLAND TO ARABLE LAND IN TEMPERATE CLIMATIC CONDITIONS

Michael OBERMEIER, Helmholtz Zentrum München, GERMANY
Co-author: P. Schröder, Helmholtz Zentrum München, Neuherberg, Germany

1DV.3.6

DIGESTATE FERTILIZATION - EFFECT ON CROP PRODUCTIVITY, QUALITY AND GHG EMISSIONS

Vita TILVIKIENE, Lithuanian Research Centre for Agriculture and Forestry, Institute of Agriculture, LITHUANIA
Co-authors: M. Doyeni, A. Baksinskaite, U. Stulpiaite, Lithuanian research Centre for Agriculture and Forestry, Akademija, Lithuania

1DV.3.7

FOREST CHIP QUALITY MEASUREMENT BY MEANS OF A CONTINUOUS QUALITY MEASUREMENT SYSTEM

Tapio RANTA, Lappeenranta University of Technology, School of Energy Systems, FINLAND
Co-authors: O.-J. Korpinen, M. Aalto, Lappeenranta University of Technology, Mikkeli, Finland

1DV.3.8

FRICITION AND TORQUE PROPERTIES OF PINE BIOMASS

Mateusz STASIAK, Institute of Agrophysics, Polish Academy of Sciences, POLAND

Co-author: M. Molenda, Institute of Agrophysics Polish Academy of Sciences, Lublin, Poland

1DV.3.9

AN UPGRADE TO MARGINAL SOILS: EFFICIENT DIGESTATE FERTILIZATION OF SIDA HERMAPHRODITA

Nicolai David JABLONOWSKI, Forschungszentrum Jülich, IBG-2 Dpt., GERMANY
Co-authors: M. Nabel, German Federal Agency for Nature Conservation – BfN, Bonn, Germany; S. D. Schrey, Forschungszentrum Jülich, Institute of Bio- and Geosciences, IBG-2: Plant Sciences, Jülich, Germany

1DV.3.10

ENERGY CHARACTERIZATION OF GIANT REED (ARUNDO DONAX, L.) GROWN ON SOIL CONTAMINATED WITH COPPER. A PRELIMINARY STUDY

Enrico SANTANGELO, CREA, Research Centre for Engineering and Agro-Food Processing, ITALY
Co-authors: M. Carnevale, C. Beni, F. Gallucci, A. Del Giudice, CREA Research Centre for Engineering and Agro-Food Processing, Monterotondo, Italy

1DV.3.11

CHARACTERIZATION OF AGRICULTURAL RESIDUES: PHYSICAL AND CHEMICAL ANALYSIS FOR ENERGY TRANSFORMATIONS

Francesco GALLUCCI, CREA, Research Centre for Engineering and Agro-Food Processing, ITALY
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1DV.3.12

DEVELOPMENT AND EVALUATION OF AN ENVIRONMENTALLY BENIGN NON-DERIVATIZING PRE-TREATMENT SOLVENT FOR FRACTIONATION OF CORN COB

Olayile EJEKWU, University of the Witwatersrand, School of Chemical and Metallurgical Engineering, SOUTH AFRICA
Co-authors: A.O. Ayeni, Covenant University, Lagos, Nigeria; M.O. Daramola, University of the Witwatersrand, Johannesburg, South Africa

1DV.3.13

POPLAR WOOD FROM SRF FOR PELLET PRODUCTION. CHARACTERIZATION OF THE RAW MATERIALS DERIVED FROM 3 AND 6 YEARS OLD TREES

Alberto ASSIRELLI, CREA - Research Center for Engineering and Agro-Food Processing, ITALY
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1DV.3.14

RESIDUES FROM HARVESTING OF TREE NUTS: AN APPRAISAL OF ENERGY VALUE OF WALNUT AND ALMOND HUSKS

Alberto ASSIRELLI, CREA - Research Center for Engineering and Agro-Food Processing, ITALY
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1DV.3.15

EFFECTS OF PROCESSING CONDITIONS AND BIOMASS MODIFICATION ON PHOSPHORUS AVAILABILITY FROM SUGARCANE BAGASSE ASH TO SOYBEANS

Vitalij DOMBINOV, Forschungszentrum Jülich, Institute of Bio- and Geosciences, IBG-2: Plant Sciences, GERMANY
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1DV.3.16

DISSOLUTION KINETICS OF CORNCOB IN LITHIUM PERCHLORATE SOLVENT SYSTEM

Olayile EJEKWU, University of the Witwatersrand, School of Chemical and Metallurgical Engineering, SOUTH AFRICA

Co-authors: K Mudzanani, M.O. Daramola, University of the Witwatersrand, Johannesburg, South Africa

1DV.3.17

EXPLOITATION OF OLIVE TREE PRUNINGS. EVALUATION OF AN INTEGRATED HARVESTING DEMONSTRATION IN CENTRAL GREECE

Michael-Alexandros KOUGIOUMTZIS, Centre for Research and Technology Hellas, Chemical Process and Energy Resources Institute, GREECE

Co-authors: E. Karampinis, P. Grammelis, E. Kakaras, Centre for Research and Technology Hellas/ CPERI, Athens, Greece

1DV.3.18

USE OF TROPICAL FRUIT WASTE FOR THE PRODUCTION OF LIGNOCELLULOLYTIC ENZYMES AND FUNGAL BIOMASS

Laura Milena GONZALEZ, Universidad de Los Andes, Chemical Engineering Dpt., COLOMBIA

Co-authors: D. D. Duran-Aranguren, L. J. Cruz-Reina, R. Sierra, Universidad de Los Andes, Bogotá, Colombia

1DV.3.21

MILLING OF MATERIALS ON A BASE OF CELLULOSE

Peter PECIAR, Czech Technical University in Prague, Faculty of Mechanical Engineering, Process Engineering Dpt., CZECH REPUBLIC

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1DV.3.30

NEW INSIGHTS IN HEMP SEED PHENOLS AND POLYPHENOLS THROUGH UHPLC-ESI-QTOF-MS/MS ANALYSIS

Alberto ASSIRELLI, CREA - Research Center for Engineering and Agro-Food Processing, ITALY

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1DV.3.33

SOFTWOOD BARK VALORISATION - WHY IS THERE A NEED TO CONSIDER FLOW AND TRANSFORMATION OF CONTAMINANTS IN BIOREFINERY PROCESSES?

Eleonora BOREN, Umeå University, Chemistry Dpt., SWEDEN

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1DV.3.34

MAPPING OF BIOMASS RESIDUES FOR POTENTIAL ENERGY GENERATION FROM THE WINE-GROWING SECTOR IN THE PROVINCES OF PALERMO AND TRAPANI

Salvatore LA BELLA, University of Palermo, Agricultural and Forest Sciences Dpt., ITALY

Co-authors: S. Nizza, C. Leto, Research Consortium for the Development of Innovative Agro-environmental Systems (CoRiSIA), Palermo, Italy; M.C. Gennaro, M. Licata, I. Cammalleri, T. Tuttolomondo, Agricultural Dpt., Food and Forest Sciences (SAAF) University of Palermo, Italy

1DV.3.38

THE SUSCACE PROJECT - SCIENTIFIC SUPPORT FOR AGRICULTURAL CONVERSION TO ENERGY CROPS

Luigi PARI, CREA- Council for Agricultural Research and Economics, Centro di ricerca Ingegneria e Trasformazioni agroalimentari, ITALY

Co-authors: E. Ceotto, CREA Research Centre for Agriculture and Environment, Bologna, Italy; G. Facciotto, CREA Research Centre for Forestry and Wood, Monferrato, Italy

1DV.3.39

THERMAL CHARACTERIZATION USING TG-MS OF BREWERS' SPENT GRAIN FROM CRAFT BEER

José Ignacio ARRANZ, University of Extremadura, Mechanical, Energy and Materials Department, SPAIN

Co-authors: M.T. Miranda, I. Montero, F.J. Sepúlveda, C.V. Rojas, University of Extremadura, Badajoz, Spain

1DV.3.40

DEMONSTRATION TESTS ON HORSE MANURE AT ENERGY PRODUCTION PLANT

Hanne SOININEN, South-Eastern Finland University of Applied Sciences, FINLAND

Co-author: R. Tuominen, South-Eastern Finland University of Applied Sciences, Mikkeli, Finland

1DV.3.41

PINEAPPLE AND BANANA RESIDUES FOR FIBER PRODUCTION: FIRST ASSESSMENT FOR BIOMASS HARVESTING AND VALUE-ADDED PRODUCT DEVELOPMENT

Luigi PARI, CREA- Council for Agricultural Research and Economics, Centro di ricerca Ingegneria e Trasformazioni agroalimentari, ITALY

Co-authors: S. Bergonzoli, A. Suardi, V. Alfano, A. Scarfone, CREA IT, Monterotondo, Italy

Visual presentations 3DV.4 | 10:45 - 12:15 | Poster area

CHEMICAL AND BIOCHEMICAL CONVERSION OF BIOMASS INTO COMPOUNDS OF INDUSTRIAL RELEVANCE

CHAIRPERSONS:

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

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

3DV.4.1

BIOBASED ELECTRODE MATERIALS FROM CORNCOB DOPED WITH DIFFERENT METAL OXIDES FOR ENERGY STORAGE APPLICATIONS: PRODUCTION AND CHARACTERIZATION

Muhammad-Jamal ALHNIDI, University of Hohenheim, Conversion Technologies of Biobased Resources Dpt., GERMANY

Co-authors: V. Hoffmann, C. Correa Rodriguez, A. Kruse, University of Hohenheim, Germany

3DV.4.3

HYBRID MODEL FOR ETHANOL PRODUCTION VIA SYNGAS FERMENTATION: COUPLING BETWEEN A THERMODYNAMICS-BASED BLACK-BOX MODEL OF BACTERIAL REACTIONS AND MASS TRANSFER IN A LARGE-SCALE BUBBLE COLUMN BIOREACTOR

John POSADA DUQUE, Delft University of Technology, Biotechnology Dpt., THE NETHERLANDS

Co-authors: E. Almeida Benalcázar, Unicamp / TU Delft, Campinas, Brazil; H. Noorman, DSM / TU Delft, Delft, The Netherlands; R. Maciel Filho, Unicamp, Campinas, Brazil

3DV.4.4

THE POTENTIAL ROLE OF BIOCHEMICALS FOR GERMAN CLIMATE TARGETS: ASSESSMENTS BASED ON ENVIRONMENTAL AND ECONOMIC PERSPECTIVES.

Frazer MUSONDA, Helmholtz Centre for Environmental Research, Bioenergy Dpt., GERMANY

Co-authors: M. Millinger, Helmholtz-Centre for Environmental Research – UFZ, Leipzig, Germany; D. Thrän, Helmholtz-Centre for Environmental Research – UFZ ; DBFZ, Leipzig, Germany

3DV.4.7

IS IT POSSIBLE TO PRODUCE LOW NITROGEN HYDROLYSATE OF GIANT REED SUITABLE FOR SINGLE CELL OIL PRODUCTION?

Enrico CEOTTO, CREA- Council for Agricultural Research and Economics, Research Centre for Agriculture and Environment, ITALY

Co-authors: S. Cianchetta, S. Galletti, CREA-AA, Bologna, Italy

3DV.4.9

BIO-ACTIVE COMPOUNDS IN GRAPE CANE EXTRACTS FROM DIFFERENT VITIS VINIFERA CULTIVARS

Francesco LA CARA, CNR - National Research Council of Italy, Research Institute on Terrestrial Ecosystems, ITALY

Co-authors: G. Squillaci, A. Morana, Research Institute on Terrestrial Ecosystems - National Research Council of Italy, Naples, Italy

3DV.4.12

D-LACTIC ACID FERMENTATION ON BREWERS' SPENT GRAIN WITH LACTOBACILLUS DELBRUECKII SUBSP. DELBRUECKII

Jan DOLINSEK, Kompetenzzentrum Holz (Wood K plus), Wood Chemistry & Biotechnology Dpt., AUSTRIA
Co-authors: V. Leitner, T. Kaltenbrunner, Kompetenzzentrum Holz, Linz, Austria; C. Paulik, JKU Linz Institute for Chemical Technology of Organic Materials, Austria

3DV.4.13
HYDROTREATMENT OF LIGNIN DIMER MODEL COMPOUNDS OVER PT/C, PT/AL₂O₃, NI/AL₂O₃ AND CU/AL₂O₃: EXPERIMENTAL AND IN SILICO ASSESSMENT OF TYPICAL (ETHER AND DIRECT C-C) BONDS CLEAVAGE

Ana BJELIC, National Institute of Chemistry, Chemical Engineering Dpt., SLOVENIA REPUBLIC
Co-authors: M. Grilc, B. Likozar, National Institute of Chemistry, Ljubljana, Slovenia Republic

3DV.4.15
GLYCEROL CONVERSION TO VALUABLE PRODUCTS BY PRESSURE AQUEOUS PROCESSING USING NI-AL-FE CATALYSTS

Lucia GARCÍA, Universidad de Zaragoza, I3A, Thermochemical Process Group, SPAIN
Co-authors: R. Raso, J. Ruiz, M. Oliva, J. Arauzo, Universidad de Zaragoza, Spain

3DV.4.16
CO₂ - BASED APPROACH IN A HIGHLY SELECTIVE CATALYST FOR DEHYDRATION OF LIGNOCEL-LULOSE-DERIVED PENTOSE INTO FURFURAL IN AQUEOUS MEDIA WITH THF AS CO-SOLVENT

Rafal LUKASIK, National Laboratory for Energy and Geology, Unit of Bioenergy, PORTUGAL
Co-authors: A.R.C. Morais, Laboratorio Nacional de Energia e Geologia, Lisbon, Portugal

3DV.4.17
SOL GEL COUPLING ADSORPTION METHOD FOR EXTRACTION OF HIGH PURITY SILICA FROM SUGARCANE BAGASSE ASH FOR SOLAR CELL APPLICATION

Michael DARAMOLA, University of the Witwatersrand, School of Chemical and Metallurgical Engineering, SOUTH AFRICA
Co-authors: F. Farirai, University of the Witwatersrand, Johannesburg, South Africa; M Mupa, Bindura University of Science Education, Bindura, Zimbabwe

3DV.4.18
HYDROGENOLYSIS OF GLYCEROL WITH EXTERNAL H₂ SUPPLY AS VALUE-ADDED LIQUID CHEMICALS SOURCE

Lucia GARCÍA, Universidad de Zaragoza, I3A, Thermochemical Process Group, SPAIN
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3DV.4.22
LACCASE PRODUCTION BY PLEUROTUS OSTREATUS AND TRAMENTES PUBENCENS CO-CULTURED IN RICE HUSK FOR DEPHENOLIZATION

Carla Stephanny CARDENAS-BUSTOS, Universidad de los Andes, Bogotá Dpt., COLOMBIA
Co-authors: R. Sierra, A. Cajiao, P. Manrique-Gonzalez, Universidad de los Andes, Bogota, Colombia; J.S. Chirivi-Salimon, Universidad Nacional Abierta y a Distancia, Bogota, Colombia

3DV.4.23
PROCESSING OF CELLULOSIC BIOMASS WITH IONIC LIQUIDS: INSIGHTS FROM STRUCTURAL CHARACTERIZATION

Tom HAELDERMANS, Act&Sorb, Research & Development Dpt., BELGIUM
Co-authors: R. Peters, P. Adriaenssens, R. Carleer, P. Samyn, Hasselt University, Belgium; P. Billen, University of Antwerp, Belgium

3DV.4.26
SYNTHESIS OF MESOPOROUS HIGH PURITY SILICA PARTICLE FROM RICE HUSK

Jinyoung CHUN, Korea Institute of Ceramic Engineering and Technology, Energy & Environment Division, KOREA
Co-authors: Y.M. Gu, J.H. Lee, Korea Institute of Ceramic Engineering and Technology, Jinju, Korea; K.K. Oh, R&D Center,

98 SugarEn Co., Gyeonggi, Korea

3DV.4.27
BIOMASS RESIDUES AS A SOURCE OF NATURAL DYES FOR TEXTILE INDUSTRIES: THE CASE STUDY OF CORK POWDER

Luis CASTRO, ISEC, DEQB, PORTUGAL
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3DV.4.28
COMBINED PRODUCTION OF HYDROGEN AND CO₂ FROM BIOGAS VIA SORPTION-ENHANCED REFORMING

Julien MEYER, Institute for Energy Technology, Environmental Industrial Processes Dpt., NORWAY
Co-author: C.P. Sanz, Institute for Energy Technology, Kjeller, Norway

3DV.4.29
MUCILAGE EXTRACTION FROM OPUNTIA SPP FOR PRODUCTION OF BIOFILMS

Gomes L. de Souza SOUZA, Faculdade Ciencias e Tecnologia - Universidade Nova de Lisboa, Biomass Science and Technology Dpt., PORTUGAL
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3DV.4.30
ANTIOXIDANT AND WHITENING ACTIVITIES OF REGIONAL BIOMASS IN JEJU ISLAND FOR NATURAL COSMETIC MATERIALS

Bonwook KOO, Korea Institute of Industrial Technology, REPUBLIC OF KOREA
Co-authors: S.-Y. Lee, Korea Forest Research Institute, Jinju, Republic of Korea; S.-M. Cho, I.-G. Choi, Seoul National University, Seoul, Republic of Korea

3DV.4.32
COMPARISON OF ALKALINE AND IONIC LIQUIDS PRE-TREATMENT APPLIED TO RESIDUES OF PERENNIAL CROPS

João PIRES, Universidade Nova de Lisboa / Faculdade de Ciências e Tecnologia, Departamento Ciências e Tecnologia da Biomassa, PORTUGAL
Co-authors: V.G.L. Souza, A.L. Fernando, METRICS, Lisbon, Portugal

3DV.4.33
FERMENTATION OF XYLOSE-RICH SUBSTRATES BY THE HALOARCHAEON HALORHABDUS UTAHENSIS TOWARDS HIGH VALUE-ADDED BIOPRODUCTS

Tiago SILVA, Laboratório Nacional de Energia e Geologia, Unidade de Bioenergia, PORTUGAL
Co-authors: L. Alves, S. M. Paixão, LNEG – Laboratório Nacional de Energia e Geologia IP, Lisbon, Portugal; G. Squillaci, IRET-CNR – Research Institute on Terrestrial Ecosystems - National Research Council, Naples, Italy; I. Serino, University of Campania “Luigi Vanvitelli”; Dep. Experimental Medicine, Naples, Italy; A. Morana, IRET-CNR – Research Institute on Terrestrial Ecosystems - National Research Council, Naples, Italy

3DV.4.34
SURFACE RESPONSE METHODOLOGY TOWARDS OPTIMAL CAROTENOID PRODUCTION BY GORDONIA ALKANIVORANS STRAIN 1B

Tiago SILVA, Laboratório Nacional de Energia e Geologia, Unidade de Bioenergia, PORTUGAL
Co-authors: S. M. Paixão, A. S. Fernandes, J. C. Roseiro, L. Alves, LNEG – Laboratório Nacional de Energia e Geologia IP, Lisboa, Portugal

3DV.4.37
HYDROTHERMAL CONVERSION OF ORGANOSOL LIGNIN INTO PHENOLS BY USING NICKEL RANEY CATALYST

Francesco ZIMBARDI, ENEA Research Centre, Energy Technologies Dpt., ITALY
Co-authors: M. Morgana, E. Viola, N. Cerone, A. Romanelli, V. Valerio, ENEA, Rotondella, Italy

3DV.4.38
CONVERSION OF RAW GLYCEROL AND CARDOON HYDROLYSATE INTO SINGLE CELL OIL BY OLEAGINOUS YEASTS

Federico LIUZZI, ENEA Research Centre, Biorefineries and green chemistry, ITALY
Co-authors: I. De Bari, L. Donzella, R. Albergo, ENEA, Rotondella, Italy

3DV.4.39

CONVERSION OF CRUDE GLYCEROL TO CITRIC ACID BY YARROWIA LIPOLYTICA

Roberto ALBERGO, ENEA - Trisaia Research Center, ITALY
Co-authors: R. Giacomobono, V. Valerio, I. De Bari, ENEA, Rotondella, Italy

3DV.4.40

STATISTICALLY OPTIMAL PARAMETERS OF ALUMINIUM SULPHATE CATALYSED HYDROLYSIS FOR FURFURAL PRODUCTION FROM BIRCH INNER BARK IN THE FRAMEWORK OF THE BIOREFINERY CONCEPT

Brazdausks PRANS, Latvian State Institute of Wood Chemistry, Biorefinery Laboratory Dpt., LATVIA
Co-authors: P. Brazdausks, J. Rizhikovs, M. Puke, R. Tupciauskas, Latvian State Institute of Wood Chemistry, Riga, Latvia

3DV.4.41

HOW TO IMPROVE THE ENVIRONMENTAL IMPACTS OF BIOBASED MATERIALS DEVELOPMENT: APPLICATION CASE OF BIOBASED ADIPIIC ACID

Achille-B. LAURENT, Maastricht University, Biobased Material Dpt., THE NETHERLANDS
Co-author: Y. van der Meer, Maastricht University, The Netherlands

**Visual presentations | 1DV.5 | 13:30 - 15:00 | Poster area
BIOMASS RESOURCE AVAILABILITY AND MOBILISATION**

CHAIRPERSONS:

Myrsini CHRISTOU, CRES - Center for Renewable Energy Sources and Saving, Biomass Dpt., GREECE
Invited

1DV.5.4

MOBILIZATION OF DISUSED SEWAGE IRRIGATION FIELDS FOR SUSTAINABLE GREEN BIOMASS UTILIZATION

Dominik RUTZ, WIP Renewable Energies, Unit Bioenergy & Bioeconomy, GERMANY
Co-authors: D. Knoche, R. Köhler, FIB, Finsterwalde, Germany; R. Mergner, C. Khawaja, R. Janssen, WIP, Munich, Germany

1DV.5.8

THE IMPACT OF MARINE BIOMASS DELIVERIES ON THE TRUCK-TRANSPORTATION SYSTEM AROUND THE POWER PLANT

Mika AALTO, Lappeenranta University of Technology, Laboratory of Bioenergy, FINLAND
Co-authors: O.J. Korpinen, T. Ranta, Lappeenranta University of Technology, Mikkeli, Finland

1DV.5.9

A SURVEY OF FORESTRY BIOMASS POTENTIAL IN LATIUM, CENTRAL ITALY

Marco SEGRETO, CNR - Consiglio Nazionale delle Ricerche, Istituto sull'Inquinamento Atmosferico, ITALY
Co-authors: L. Tomassetti, M. Torre, A. Palma, P. Tratzi, V. Paolini, F. Petracchini, National Research Council of Italy - Institute of Atmospheric Pollution Research, Monterotondo, Italy; M. Carnevale, F. Gallucci, Consiglio per la Ricerca in Agricoltura e l'Analisi dell'Economia Agraria, Unità di Ricerca per l'In, Monterotondo, Italy

1DV.5.11

HARVESTING CITRUS AND OLIVE PRUNING RESIDUES FOR ENERGY USE IN MEDITERRANEAN AREA OF ITALY

Andrea PROTO, University of Reggio Calabria, Agraria Dpt., ITALY
Co-authors: S. Papandrea, G. Zimbalatti, University of Reggio Calabria, Department of AGRARIA, Italy; R. Bonofiglio, A. Leuzzi, ARSAC, Cosenza, Italy; A. Tonolo, Ministry of Agricultural, Food and Forestry Policies (MiPAAF), Roma, Italy; F. Gallucci, CREA-Research Centre for Engineering and Agro-Food Processing, Monterotondo, Italy

1DV.5.13

EUBCE Student Awardee Presentation

100 **ECONOMIC OPTIMISATION OF PLANT LOCATION FOR BIOMASS CONVERSION IN QUEENSLAND,**

AUSTRALIA BASED ON FOREST BIOMASS AVAILABILITY

Sam VAN HOLSBEECK, University of the Sunshine Coast, AUSTRALIA
Co-authors: M. R. Ghaffariyan, M. Brown, S. K. Srivastava, University of the Sunshine Coast, Maroochydhore, Australia

1DV.5.15

THE BIOMASS ENERGY VALORIZATION OF RESIDUES FROM PALM OIL AGRO-INDUSTRIAL PROCESS: CASE OF STUDY IN MEXICO

Oscar SILVAN-HERNANDEZ, UJAT, MEXICO
Co-authors: J.E. Ordoñez-Frías, E. Mata-Sayas, L. Pampillón-González, Universidad Juárez Autónoma de Tabasco, Villahermosa, Mexico; O. Silván-Hernández, UAG, Villahermosa, Mexico

1DV.5.16

BY-PRODUCTS FROM AGRO-INDUSTRIAL SECTOR IN MEXICO: BIOMASS SOURCE AND ENERGY POTENTIAL

Oscar SILVAN-HERNANDEZ, UJAT, MEXICO
Co-authors: L. Pampillón-González, J.E. Ordoñez-Frías, E. Mata-Zayas, Universidad Juárez Autónoma de Tabasco, Villahermosa, Mexico; O. Silván-Hernández, Universidad Autonoma de Guadalajara, Villahermosa, Mexico

1DV.5.17

CONNECTING SUPPLY-CHAIN DATA WITH MOISTURE DATA RETRIEVED FROM CONTINUOUS BIOMASS MEASUREMENT AT POWER PLANT

Olli-Jussi KORPINEN, Lappeenranta-Lahti University of Technology LUT, Laboratory of Bioenergy, FINLAND
Co-authors: M. Aalto, T. Ranta, Lappeenranta-Lahti University of Technology, Mikkeli, Finland

1DV.5.18

FOREST INVENTORY FOR ENERGY PURPOSES FROM AIRBORNE LASER SCANNING

Mika LAIHANEN, LUT University, LUT School of Energy Systems - Bioenergy, FINLAND
Co-authors: A. Karhunen, K. Karttunen, T. Ranta, Lappeenranta University of Technology, Finland

1DV.5.24

MARGINAL LAND SPATIAL RECOGNITION AND THEIR POSIBILITIES FOR BIOMASS PRODUCTION

Rafal PUDELKO, Institute of Soil Science and Plant Cultivation, Agrometeorology and Applied Informatics Dpt., POLAND
Co-author: M. Kozak, IUNG-PIB, Pulawy, Poland

1DV.5.26

COST-BENEFIT ANALYSIS OF CUT-AWAY PEATLAND RE-CULTIVATION WITH FAST GROWING WOODY PLANTATIONS

Kristaps MAKOVSKIS, LSFRI Silava, Forest Regeneration and Establishment Dpt., LATVIA
Co-authors: D. Lazdina, LSFRI Silava, Salaspils, Latvia; D. Popluga, Latvia University of Life Sciences and Technologies, Jelgava, Latvia

1DV.5.31

ENERGY POTENTIAL OF RESIDUAL BIOMASS OF EUCALYPTUS GLOBULUS COPPICESIIN PORTUGAL

Isabel MALICO, Universidade de Évora, Physics Dpt., PORTUGAL
Co-authors: A. Gonçalves, A. Sousa, Universidade de Évora, Portugal

1DV.5.32

CROP SELECTION FOR LOW-INPUT INDUSTRIAL CROPPING ON MARGINAL LANDS IN EUROPE

Moritz VON COSSEL, University of Hohenheim, Biobased Products and Energy Crops Dpt., GERMANY
Co-authors: B. Elbersen, I. Staritsky, M. Van Eupen, Wageningen University & Research, Earth Informatics, The Netherlands; Y. Iqbal, I. Lewandowski, University of Hohenheim, Institute of Crop Science, Biobased Products and Energy Crops, Stuttgart, Germany; D. Scordia, S. L. Cosentino, University of Catania, Agriculture, Food and Environment, Italy; S. Mantel, International Soil Reference and Information Centre, Wageningen, The Netherlands; O. Maliarenko, National Academy of

1DV.5.35

DAISY MODEL: A DYNAMIC TOOL TO PREDICT BIOMASS ACCUMULATION IN CEREAL/GRASS-LEGUME INTERCROP

Bhim Bahadur GHALEY, University of Copenhagen, Plant and Environmental Sciences Dpt., DENMARK
Co-authors: LV Hansen, University of Copenhagen, Taastrup, Denmark; P Abrahamsen, University of Copenhagen, Frederiksberg, Denmark

Visual presentations 3DV.6 | 13:30 - 15:00 | Poster area
BIOFUELS FROM FEEDSTOCK TO BIODIESEL PRODUCTION

CHAIRPERSONS:

Dimitrios SIDIRAS, University of Piraeus, Industrial Management and Technology Dpt., GREECE
Giuliano GRASSI, European Biomass Industry Association, BELGIUM

3DV.6.1

THE PRODUCTION OF PYROLYTIC JET FUEL FROM BIOMASS

Wei-Cheng WANG, National Cheng Kung University, Department of Aeronautics and Astronautics, TAIWAN

3DV.6.2

PRODUCTION OF BIOFUEL BY UTILIZING THE HYDROLYSATE OF WASTE BIOMASS

Swati DAHIYA, Indian Institute of Technology Roorkee, Civil Engineering Dpt., INDIA
Co-authors: R. Chowdhury, P. Kumar, IIT Roorkee, India

3DV.6.3

WASTE COOKING OIL VALORISATION INTO BIODIESEL USING SUPERCRITICAL METHANOLYSIS: CRITICAL ASSESSMENT ON THE EFFECT OF WATER CONTENT

Zahra ECHRESH ZADEH, London South Bank University, Chemical and Petroleum Engineering Dpt., UNITED KINGDOM
Co-authors: Y. Umar, O. Aboelazayem, B. Saha, London South Bank University, London, United Kingdom; M. Gadalla, The British University in Egypt, Cairo, Egypt

3DV.6.5

STUDY OF THE PROCESSING LAYOUT & CAPACITY AND THEIR EFFECT ON THE TECHNO-ECONOMIC PERFORMANCE OF A BIODIESEL PRODUCTION PROCESS USING CAO AS CATALYST

Shemelis Nigatu GEBREMARIAM, Norwegian University of Life Sciences, Faculty of Science and Technology, REALTEK, NORWAY
Co-author: Jorge Marchetti, NMBU, Ås, Norway

3DV.6.6

SUPERCRITICAL ETHANOL LIQUEFACTION OF LIGNIN IN A CONTINUOUS REACTOR

In-gu LEE, Korea Institute of Energy Research, Biomass and Wastes to Energy Laboratory, KOREA
Co-authors: J.Y. Park, S. Moogil, Korea Institute of Energy Research, Daejeon, Korea; W. Kazmi, Korea Institute of Energy Research, University of Science & Technology, Daejeon, Korea

3DV.6.8

STUDIES ON THE EFFECT OF FLYASH (CLASS-F) AS A CATALYST FOR THE CO-PYROLYSIS OF SCRAP TYRE AND PLASTIC WASTE

Akhil MOHAN, National Institute of Technology Karnataka, Mechanical Engineering Dpt., INDIA
Co-authors: S. Dutta, V. Madav, National Institute of Technology Karnataka, Mangalore, INDIA; S.S. Bhushnoor, K J Somaiya College of Engineering and Technology, Mumbai, INDIA; J. Fernandez Garcia, P.T. Williams, University of Leeds, UNITED KINGDOM

3DV.6.9

ONE-STAGE BIO-OIL STABILIZATION OVER A SULPHIDED NIMO/AL₂O₃ CATALYST

Milos AUERSVALD, UCT Prague, Petroleum Technology and Alternative Fuels Dpt., CZECH REPUBLIC
Co-authors: B. Shumeiko, P. Straka, D. Kubička M. Staš, P. P. Šimáček, UCT Prague, Czech Republic

3DV.6.10

PROPERTY CHARACTERIZATION OF R. TRISPERMA OIL AND BIODIESEL PRODUCTION

Deog-Keun KIM, Korea Institute of Energy Research, Biomass and wastes to Energy Laboratory Dpt., KOREA
Co-authors: R. Lim, J.P. Lee, J.S. Lee, Korea Institute of Energy Research, Daejeon, Korea

3DV.6.11

OBTAINING BIODIESEL FROM AN INEDIBLE OIL FOR DIESEL ENGINES OF VEHICLES FROM THE AMAZON RAINFOREST

Magali Camila VIVAS-CUELLAR, Universidad Nacional de Ingenieria, Lima Dpt., PERU
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3DV.6.13

A NOVEL APPROACH ON ISOMERIZATION OF LONG CHAIN CARBOXYLIC ACIDS BASED ON THEIR SIMILARITIES WITH HYDROCARBONS

Stefano DELL'ORCO, RE-CORD, ITALY
Co-authors: R. Maghrebi, E. Milliotti, D. Chiamonti, University of Florence, Italy; L. Bettucci, RE-CORD, Florence, Italy; Paolo Bondioli, Innovhub, Milan, Italy

3DV.6.15

GRAPE POMACE AS ALTERNATIVE CARBON SOURCE FOR CAROTENOID-PRODUCING OLEAGINOUS YEAST AFTER SUBCRITICAL WATER TREATMENT

Bruno PEDRAS, Faculdade de Ciências e Tecnologias, Universidade Nova de Lisboa, Chemistry Dpt., PORTUGAL
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