Symposium on Thermal and Catalytic Sciences for Biofuels and Biobased Products

Posters

Topic	Title	Presenter	Affiliation
Gasification			
G1	**Tar Formation during Gasification of Lignin Model Dimers**	Sushil Adhikari	*Auburn University*
G2s	**Investigation of Nickel Supported Catalysts in Steam Reforming of Tar Using Simulated Toluene as a Model Compound in Hot-Gas Clean-Up of Syngas**	Talal K. Ahmed	*North Carolina A&T State University*
G3s	**Influence of Biochar Supported Metal Catalysts on the Reaction Kinetics of Biomass CO_2 Gasification**	John K. Eshun	*North Carolina A&T State University*
G4	**Hybrid Lagrangian-Eulerian Simulation of a Bubbling Fluidized Bed Gasifier**	Abolhasan Hashemisohi	*North Carolina A&T State University*
G5s	**Parametric Investigation of the Solids Circulation Rate in the CFD Modeling of Dual Fluidized-Bed System**	Hui Liu	*University of California San Diego*
G6	**Indirect Liquefaction of Biomass to Transportation Fuels via Mixed Oxygenated Intermediates**	Michael Talmadge	*National Renewable Energy Laboratory*
Hydrothermal			
H1	**Effect of Biochemical Composition on the Bio-oil Yield from Hydrothermal Liquefaction of Algae and Subsequent Upgrading of the Produced Bio-oil**	Sushil Adhikari	*Auburn University*
H2s	**Optimized Hydrothermal Liquefaction for High- and Low-Lipid Algae**	Feng Cheng	*New Mexico State University*
H3s	**Investigation into the Effect of Feedstock Moisture on Solvent Liquefaction of Lignocellulosic Biomass in Non-aqueous Solvents**	Martin R. Haverly	*Iowa State University - Bioeconomy Institute*
H4	**An Innovative Method for Efficiently Liquefying Biomass Using Raney Nickel and NaOH as the Combined Catalysts**	Yunquan Liu	*Xiamen University*
H5	**Characterization of Aqueous Byproducts Obtained from Hydrothermal Liquefaction ofIndustrial and Municipal Waste Streams**	Balakrishna Maddi	*Pacific Northwest National Laboratory*

Topic	Title	Presenter	Affiliation
Pyrolysis			
P1s	**Catalytic Co-pyrolysis of Microalgae and Low Density Polyethylene Waste to Aromatic Hydrocarbons Using Activated Carbon**	Emmanuel Ansah	*North Carolina A&T State University*
P2s	**Low Pressure Catalytic (Hydro) Pyrolysis of Different Milled Lignins and Lignin Model Compounds Using Bifunctional Catalysts**	Xianglan Bai	*Iowa State University*
P3	**Pyrolysis of Solid Waste on Spacecraft for Water Recovery and Biochar**	Catherine Brewer	*New Mexico State University*
P4	**Development of a Low Volume Corrosive Tendency Screening Test**	Raynella M. Connatser	*Oak Ridge National Laboratory*
P5s	**Effects of Recycling Regenerated Heat Carrier on the Performance of an Auger Pyrolysis Reactor**	Tannon J. Daugaard	*Iowa State University*
P6	**Liquid-Liquid Equilibrium (LLE) Measurements and Modeling for Biomass Catalytic Fast Pyrolysis Products**	Abhijit Dutta	*National Renewable Energy Laboratory*
P7	**Biorenewable Calcined Coke from Pyrolysis Bio-oil**	Yaseen Elkasabi	*USDA-ARS ERRC*
P8	**Corrosion Studies with Model Bio-oils**	Matthew G. Frith	*Oak Ridge National Laboratory*
P9	**Impact of Feedstock, Temperature, and Residence Time on Pyrolysis Products Produced at Pilot-Scale**	Katherine Gaston	*National Renewable Energy Laboratory*
P10	**Pilot-Scale Pyrolysis: Investigating and Solving Operational Problems from Running a New Feedstock**	Katherine Gaston	*National Renewable Energy Laboratory*
P11s	**Reaction Network for Partial Oxidation of Pyrolysis Reactants and Products Under Simulated Autothermal Pyrolysis Conditions**	Patrick Hall	*Iowa State University - Bioeconomy Institute*
P12	**Metal-Modified Zeolites in the Upgrading of Pyrolysis Vapors**	Richard J. French	*National Renewable Energy Laboratory*
P13s	**Methylation of Technical Lignin to Produce High Value Chemicals**	Patrick A. Johnston	*Iowa State University - Bioeconomy Institute*

Topic	Title	Presenter	Affiliation
P14	**Compatibility of Fast Pyrolysis Bio-oil with Infrastructure Elastomers**	Mike Kass	*Oak Ridge National Laboratory*
P15	**Red Mud as an In Situ Pyrolysis Catalyst: Its Ability and its Concurrent Remediation**	Andrew W. Lepore	*University of Tennessee / ORNL*
P16s	**Time Resolved Measurements of Condensed Phase and Vapor Phase Products during Fast Pyrolysis of Cellulose**	Jake K. Lindstrom	*Iowa State University*
P17s	**Vapor Phase Decomposition of Levoglucosan**	Jake K. Lindstrom	*Iowa State University*
P18s	**Thermal Deconstruction of Cellulose with Subsequent Hydrolysis to Fermentable Sugars**	Jake K. Lindstrom	*Iowa State University*
P19s	**The Tug and Pull of Lignin Fast Pyrolysis**	Ross D. Mazur	*Iowa State University - Bioeconomy Institute*
P20	**The Effect of Nitrogen and Sulfur Containing Molecules on Standard Methods for Accurate Determination of Oxygenates in Bio-oils**	Asanga B. Padmaperuma	*Pacific Northwest National Laboratory*
P21	**Catalytic Deoxygenation Reaction Pathways of Bio-Oil Model Compounds**	Jonathan E. Peters	*RTI International*
P22	**Method for Hot Real-Time Sampling of Pyrolysis Vapors at Pilot Scale**	Marc Pomeroy	*National Renewable Energy Laboratory*
P23s	**Modeling the Early Stages of Cellulose Pyrolysis**	Juan S. Proano-Aviles	*Iowa State University*
P24s	**Simulation of Cellulose Deconstruction under Variable Temperature Profiles in a Free Fall Pyrolyzer**	Juan S. Proano-Aviles	*Iowa State University*
P25s	**Identification of the Species Responsible for Morphology Conservation in Lignocellulosic Pyrolysis: Visualization Studies of Sugarcane Bagasse and its Pseudo-components**	Filip Stankovikj	*Washington State University*
P26	**Effects of Hot-Water Extraction on the Thermochemical Conversion of Shrub Willow via Fast Pyrolysis**	Paul C. Tarves	*USDA-ARS ERRC*
P27	**Catalytic Co-pyrolysis of Biomass and Waste Plastic on Py–GC/MS**	Changsen Zhang	*Zhengzhou University*

Topic	Title	Presenter	Affiliation
Upgrading			
U1	**Non-oxidative Direct Conversion of Methane for Higher Hydrocarbons**	Sushil Adhikari	*Auburn University*
U2	**Understanding the Effect of Catalytic Pyrolysis Bio-Oil Produced using CaO during Hydrotreatment**	Sushil Adhikari	*Auburn University*
U3	**Techno-economic and Lifecycle Analysis for Renewable Acrylonitrile Precursor for Production of Carbon Fibers**	Lindsey Chatterton	*Southern Research*
U4	**Effect of Inorganic Elements on Vapor Phase Upgrading of Biomass Pyrolysis Products**	Singfoong Cheah	*National Renewable Energy Laboratory*
U5	**Integrated Process for the Conversion of C2+ Oxygenates to Middle Distillates via $Zn_xZr_yO_z$ Mixed Oxide Catalysts**	Robert Dagle	*Pacific Northwest National Laboratory*
U6s	**Renewable Transportation Fuels via Fast Pyrolysis and Electrocatalytic Hydrogenation**	Sabyasachi Das	*Michigan State University*
U7	**Catalytic Hydroprocessing of Fast Pyrolysis Oils: Impact of Feedstock**	Steve P. Deutch	*National Renewable Energy Laboratory*
U8	**Hydrodeoxygenation of Model and Real Vapor-Phase-Upgraded Pyrolysis Oils**	Richard J. French	*National Renewable Energy Laboratory*
U9	**Distillate Generation via Guerbet Alcohol Coupling from Biomass**	Michel J. Gray	*Pacific Northwest National Laboratory*
U10	**Reaction Mechanism Studies of Ethanol Coupling over Mixed Oxide Catalyst**	Heather M. Job	*Pacific Northwest National Laboratory*
U11	**Catalytic Upgrading of Propionic Acid, a Bio-oil Model Compound, to Alcohol and Olefin Using Metal Doped Mo_2C**	Andrew W. Lepore	*University of Tennessee / ORNL*
U12	**Hydrodeoxygenation of Biomass Derived Oxygenates Using Molybdenum Carbides**	Zhenglong Li	*Oak Ridge National Laboratory*
U13s	**Upgrading of Bio-oil by Catalytic Hydrodeoxygenation over Pd-Ni_2P Catalyst**	Yonggang Liu	*Zhengzhou University*
U14s	**Catalytic Sulfur Tar Reformer Characterization through Upstream and Downstream Organic Sulfur Species Identification**	Michael Long	*University of California Davis*

Topic	Title	Presenter	Affiliation
U15	**Field-to-Fuel Performance Testing of Lignocellulosic Feedstocks for Fast Pyrolysis and Upgrading: Techno-economic Analysis and Greenhouse Gas Life Cycle Analysis**	Pimphan Aye Meyer	*Pacific Northwest National Laboratory*
U16s	**Mixed Alcohol Synthesis from Producer Gas from a Dual Fluidized Bed Gasifier**	Ulrich Niemann	*University of California, San Diego*
U17	**Recent Development on Upgrading of In-Situ Catalytic Pyrolysis Bio-oil to Liquid Hydrocarbon Fuels**	Daniel M. Santosa	*Pacific Northwest National Laboratory*
U18	**Upgrading of HTL Bio Crude Oil Using Nano Pd/Bio-C Catalyst**	Brajendra K. Sharma	*University of Illinois, Urbana-Champaign*
U19s	**Thermo-Catalytic Upgrading of Biomass Derived Lipids to Fuels and Chemicals**	Yaser Shirazi	*The University of Toledo*
U20s	**The Faith of Functional Groups during Pyrolysis Oil Stabilization over Ru/C Catalyst**	Filip Stankovikj	*Washington State University*
U21	**Valorization of Biorefinery Waste: Catalytic Upgrading of Catalytic Fast Pyrolysis Aqueous Phase to Chemical Intermediates**	Anne K. Starace	*National Renewable Energy Laboratory*
U22	**Toward Understanding of Condensation Reactions and Hydrogenation Reactions of Bio-oil during its Catalytic Stabilization**	Huamin Wang	*Pacific Northwest National Laboratory*
U23	**Phenols from Catalytic Fast Pyrolysis**	Nolan A. Wilson	*National Renewable Energy Laboratory*
U24s	**Deactivation Over Multilamellar MFI Nanosheet Zeolite during Upgrading Biomass Pyrolysis Vapors**	Mengze Xu	*Colorado School of Mines*
Other			
O1	**Softwood (Douglus Fir) Derived Bio-Char from Fast Pyrolysis for the Production of Energy Storage Material**	Sushil Adhikari	*Auburn University*
O2	**Improved Biofuel Feedstock through Plant Systems Biology**	Yuelong Guo	*RTI International*
O3	**Membrane Separations for Thermochemical Conversion of Biofuels**	Michael Z. Hu	*Oak Ridge National Laboratory*
O4	**Compatibility of Structural Materials with Biomass-Derived Oils**	James R. Keiser	*Oak Ridge National Laboratory*

Topic	Title	Presenter	Affiliation
O5s	**Syngas Production by Dry Reforming of Biogas over Biochar Supported Molybdenum Carbides**	Rui Li	*North Carolina A&T State University*
O6	**Influence of SiO_2 on the Transport Behavior of O_2, N_2, CO_2 and CH_4 through Polydimethylsiloxane Nanocomposite Membrane**	Emmanuel Ogbole	*North Carolina A&T State University*
O7	**Conversion of Sugar Stream to Hydrocarbon Fuels over Mixed Oxide Catalysts**	Asanga B. Padmaperuma	*Pacific Northwest National Laboratory*
O8	**Spark Ignition Fuel Properties of Bio-derived Materials and their Applicability as Gasoline Blendstocks**	Ellen A. Panisko	*Pacific Northwest National Laboratory*
O9	**Glycerol Steam Reforming for Hydrogen Production over MCM-41 and SBA-15 Supported Co and Ni Catalysts**	Taimoor Pasha	*North Carolina A&T State University*
O10s	**Bulk Gas to Atomized Liquid Syngas Fermentation Reactor**	Ashik Sathish	*Iowa State University: Agricultural and Biosystems Engineering*
O11	**Applications of Linear Programming Models for the Bioenergy Industry**	Michael Talmadge	*National Renewable Energy Laboratory*
O12	**Synthesis of Pt/mOMC Catalysts for Proton Exchange Membrane Fuel Cell Application**	Dereje Worku	*North Carolina A&T State University*
O13s	**Optimization of Acid Pretreatment for Increased Sugar Yields from Pyrolysis of Biomass**	Kayla E. Johnson	*Iowa State University*
O14	**Sulphur Sensitivity and Regeneration of a Ni-Fe-CaO Catalyst for Application to Biomass Gasification**	Reinhard Seiser	*University of California San Diego*
O15	**Determining Design Parameters for Adsorbent Based Separation of Pyrolytic Sugars and Phenolic Species**	John Stanford	*Iowa State University*