

## ***Preliminary Program***

# **PYROLIQ III – 2025: Pyrolysis and Liquefaction of Biomass and Wastes**

**September 14-19, 2025**

**Grand Hotel San Michele**

**Cetraro (Calabria), Italy**

### **Conference Co-Chairs**

**Axel Funke**, KIT, Germany

**Pilar Ruiz Ramiro**, University of Twente, Netherland

**Paola Giudicianni**, Institute of Science and Technology for Sustainable Energy and Mobility - CNR - Italy

**Manuel Garcia-Perez**, Washington State University, USA



**Engineering Conferences International**  
369 Lexington Avenue, 3<sup>rd</sup> Floor #389 - New York, NY 10017, USA  
[www.engconfintl.org](http://www.engconfintl.org) – [info@engconfintl.org](mailto:info@engconfintl.org)

### **Sunday, September 14, 2025**

16:30 – 18:30	Conference check in
18:30 – 19:30	Welcome reception with entertainment
19:30 – 21:00	Dinner

### **Monday, September 15, 2025**

7:30am - 8:30am	Breakfast
8:30am – 8:45am	Opening Remarks
8:45am – 9:15am	Keynote
9:15am – 9:30am	Manrique R: Elucidating the role of sulfur in NiMo catalyst for the hydrodeoxygenation of guaiacol: a density functional theory study, USDA, USA, Oral130
9:30am – 9:45am	Rojas M: Synthetic Lignin Oligomers: Analytical Techniques, Challenges, and Opportunities, Karlsruhe Institute of Technology, Germany Oral137
9:45am – 10:00am	Alkoussa J: Pyrolysis of cellulose in a fixed bed reactor: effect of pressure and sweep gas velocity. LRGP, Université de Lorraine, Nancy, France, Oral154
10:00am – 10:15am	Jia L: The Micro-fluidized Bed: a Versatile Device to Study the Pyrolysis of Biomass on a Wide Range of Conditions, HFUT, China-France, Oral157
10:15am -11:00am	Coffee Break
11:00am – 11:15am	Ruiz P: Reaction and Mass Transfer Interaction during Pyrolysis of Polyethylene, University of Twente, Netherlands
11:15am – 11:30am	Ordóñez J: Biooil droplet bursting during heating: mechanistic modelling. ICFAR, Western University, Canada
11:30am – 11:45am	Giudicianni P: Pyrolysis of Coffee Silverskin: Unveiling Volatile Species Release through Tg-ftir and Py-gc/ms, NRC, Italy, Oral174
11:45am – 12:00pm	Tekbas D: Damköhler Number to Modulate Neat and Catalytic Polyolefin Pyrolysis, University of Massachusetts Lowell, USA Oral179
12:00pm – 12:15pm	Saffron Ch: Biomass pyrolysis reaction pathway mapping using plant cell culture. Michigan State University, USA, Oral 180
12:15pm – 12:30pm	Smith A: Influence of monomode microwave energy on bond breaking during pyrolysis. Aarhus University, Denmark Oral188
12:30 pm-12:45	Bernardes Figueredo Microwave-assisted pyrolysis of real LDPE waste streams: influence of thermal gradients in oil properties & gaps and opportunities for technology upscaling, CIRCE Technology Center, Spain, Oral112
12:45 pm – 1:00 pm	Salameh et al . Pyrolysis of Glass Reinforced Plastic Composites and Investigation of Fiber Recovery, Université de Reims Champagne Ardenne, France, Oral118

1:00pm – 2:03pm	Lunch
2:00pm – 3:30pm	Networking / Free time
3:30pm – 4:00pm	Coffee Break
4:00pm – 4:15pm	Mercier Z: Adapting Chemical Reaction Kinetics of Biomass Fast Pyrolysis to Fluidized-bed Reactor Model, IMT Albi, France Oral110s
4:15pm – 4:30pm	Illoussemen B, Hydrothermal Liquefaction Combined With Deep Eutectic Solvent Extraction for Olive Mill Wastewater Valorization, University of Lorraine LRGP, France, Oral114
4:30pm – 4:45pm	Browning B: Hydrotreatment of sewage sludge-derived hydrothermal liquefaction biocrude: Kinetic Model. Université Claude Bernard Lyon1, Oral140
4:45pm – 5:00pm	Jalalinejad A: Predictive Thermodynamic Models for Fast Pyrolysis Bio-oil-related Molecules: a Systematic Approach, Karlsruhe Institute of Technology (KIT), Germany, Oral142
5:00pm – 5:15pm	Stefanidis S: Impact of hydrothermal deactivation and metal poisoning on ZSM-5 catalyst performance in biomass pyrolysis, Centre for Research and Technology Hellas, Greece, Oral143
5:15pm – 5:30pm	Rehman Khurram Pyrolysis and combustion of multilayer packaging waste: Kinetic analysis and compensation law, IMT Mines Albi, France Oral144
5:30pm – 5:45pm	Tito E: Effects of inorganics during hydrothermal liquefaction of OFMSW, Politecnico di Torino, Italy Oral145
5:45 pm-6:00 pm	Lopez et al. Steam Cracking of Different Plastics in a Fountain Confined Conical Spouted Bed Reactor, University of the Basque Country UPV/EHU, Spain Oral121
6:00 pm – 6:15 pm	Ceragioli G: Valorisation of multi-component plastic waste via hydrothermal liquefaction: a comprehensive analysis of interactions between PET and PA6 depolymerization, Politecnico di Torino, Italy Oral125
6:15 pm – 6:30 pm	Engels T: Towards circular polyurethane via catalytic pyrolysis, Rijksuniversiteit Groningen, Netherlands
6:30 pm – 6:45 pm	Lopez JM: Optimization of thermochemical recycling of PMMA: auger and fluidized bed reactors as keys to a circular economy, Instituto de Carboquímica (CSIC), Spain
6:45pm – 7:30pm	Networking/Discussion/Free time
7:30pm – 8:30pm	Dinner
8:30pm – 9:15pm	Short (3 minute) Poster Previews

### List of Posters

1. Koli Pyrolysis of multilayer films - Recycling from laboratory to pilot post102
2. Fonts et al Fractionation of lignocellulosic bio-oil and its application in catalytic hydrodeoxygenation for the production of sustainable aviation fuels Post103s

3. Jouni Optimisation of plastics-biomass co-pyrolysis using a two-stage process with reflux, with a view to obtaining better quality oils. Post105

4. Moreno Effect of operational parameters on the alcohol-based liquefaction of Sargassum Post106

5. Straka How to Determine Olefins in Pyrolysis/HTL Oils from Waste Plastics and Tires Using GC×GC-FID? Post108

9:15pm – 10:30pm **Poster Session** / Social Networking

## **Tuesday, September 16, 2025**

7:30am - 8:30am	Breakfast
8:30am – 8:45am	Opening Remarks
8:45am – 9:15am	Keynote
9:15am – 9:30am	Elkasabi et al. Biobased industrial carbons from biomass pyrolysis oils, USDA, USA, Oral101s1
9:30am – 9:45am	Elkasabi et al. Purification and utilization of bio-oil phenolics for antimicrobial applications, USDA, USA, Oral102
9:45am – 10:00am	Meile et al. Preliminary investigation of the production of 1,6-anhydro-β-D-glucofuranose by wood pyrolysis, Latvian State Institute of Wood Chemistry Oral107
10:00am – 10:15am	Pellegrin C: Catalytic hydroconversion of lignin into sustainable aviation fuel, Universite Lyon 1, France, Oral108
10:15am -11:00am	Coffee Break
11:00am – 11:15am	Palozzolo M: Conversion of spent yerba mate into bio-products by intermediate pyrolysis, University of Groningen, Oral111
11:15am – 11:30am	Jensen et al. Mixing upgraded pyrolysis bio-oil with heavy fuel for marine transport, Technical University of Denmark (DTU), Oral123
11:30am – 11:45am	Khazraie T: Light organic oil from catalytic fast pyrolysis of biomass: A valuable fraction for chemical industries, Valmet Technologies, Finland, oral124
11:45am – 12:00pm	Hu M: Green synthesis of porous carbon from Cyanobacteria for value-added products, University of Edinburgh, UK
12:00pm – 12:15pm	Grottola CM:Thermochemical valorization of manure digestate via hydrothermal liquefaction and thermal treatment of hydrochar to obtain soil improver, Istituto di Scienze e Tecnologie per l'Energia e la Mobilità Sostenibili (STEMS-CNR), Italy Oral152
12:15pm – 12:30pm	Amato D: Bioactive compounds' fate in coffee silverskin pyrolysis, Istituto di Scienze e Tecnologie per l'Energia e la Mobilità Sostenibili (STEMS-CNR), Italy oral172

12:30 pm-12:45 pm	Deuss P: Catalytic Solutions for the Chemical Recycling of Waste Plastics via Pyrolysis, University of Groningen, Netherlands Oral127
12:45 pm-1:00 pm	Saad Qureshi, Advancing circularity of WEEE plastics through chemical recycling in a cascade approach, Neste Oyj, Finland Oral135
1:00pm – 2:30pm	Lunch
2:30pm – 3:30pm	Networking / Free time
3:30pm – 4:00pm	Coffee Break
4:00pm – 4:15pm	Julian I Experimental microwave-assisted EoL wind turbine blades recycling: Role of chemical recycling route on oils quality and process techno-economics, CIRCE-Technology Center, Spain
4:15pm – 4:30pm	Klupfel Ch: AD, HTL or both? A techno-economic comparison of biomass valorisation, Deutsches Biomasseforschungszentrum, Germany
4:30pm – 4:45pm	Dave A: Circular Economy Strategies for Tetra Pak Waste: Biofuel Production and Nanocomposite Synthesis via Hydrothermal Processing. Indian Institute of Technology Roorkee, India Oral165
4:45pm – 5:00pm	Bakos J: Circular solution for complex and hazardous biomass waste. Titan Clean Energy projects Corp. Canada, Oral187
5:00pm – 5:15pm	Tarulina et al Depolymerization of Polystyrene to Styrene Monomer: from Laboratory to Industrialization, Sulzer, Switzerland, Oral103
5:15pm – 5:30pm	Bayawa Muhammad et al. Catalytic Pyrolysis of Waste Plastics into hydrocarbons using Ni-CoO/Al <sub>2</sub> O <sub>3</sub> as a catalyst, Usmanu Danfodiyo University, Sokoto, Nigeria Oral104
5:30pm – 5:45pm	Vatankah F: Selective synthesis of carbon nanotubes through microwave-assisted catalytic pyrolysis of polyethylene: A kinetic study, Polytechnique Montreal, Canada, Oral109
5:45 pm – 6:00 pm	Badlaoui M: Characterization of nitrogen compound in tire pyrolysis oils after hydrotreating. IFP Energies Nouvelles, France, Oral168
6:00 pm – 6:15 pm	Soldatos P: A comparative study of in-situ and ex-situ catalytic upgrading of plastic-derived pyrolysis oil to maximize naphtha production. Aristotle University of Thessaloniki. Greece Oral169
6:15pm – 7:00pm	Networking / Discussion / Free time
7:30pm – 9:00pm	Dinner
9:00pm – 9:30pm	Short (3 minute) Poster Previews

### List of Posters

1. Aibuldinov Innovative approaches to municipal waste management: fast pyrolysis technology using solid heat carriers Post111
2. Ribechini Pyrolysis of polyolefins: kinetics and experimental study Post 112
3. Bashiri Numerical modeling of Solar-Assisted Pyrolysis Reactor for Sustainable Aviation Fuel Production Post113

4. Torri Evaluation of Performance of Fumecatch® System for Recovery of Condensate from Slow Pyrolysis of Wood Waste. Post114

5. Jeaidi Characterization of biochar-bio-oil slurries: effects of particle size and concentration Post115

9:30pm – 10:30pm      **Poster Session** / Social Networking

### **Wednesday, September 17, 2025**

7:30am - 8:30am      Breakfast

8:45am – 9:15am      Keynote

9:15am – 9:30am      Heeres H: Model studies on the catalytic conversion of waste polyolefines to benzene, toluene and xylenes. University of Groningen, Netherlands

9:30am – 9:45am      Damizia M: Treated red mud as catalyst and iron-based hydrogen source for the hydrothermal liquefaction of pinewood. Sapienza University of Rome, Italy Oral175

9:45am – 10:00am      Eiden et al. Smart pyrolysis of Polyurethane rigid foam from g to 10 kg/h scale, Covestro Deutschland AG, Germany Oral105

10:00am – 10:15am      Jaydev et al Industrial-scale continuous chemical recycling of mixed plastic waste into cracker-ready oil via thin-film pyrolysis. BUSS ChemTech AG, Switzerland, Oral106

10:15am -11:00am      Coffee Break

11:00am – 11:15am      Haarlemmer G: Hydrothermal liquefaction of micro algae in continuous and batch reactors, CEA Grenoble LITEN, Université Grenoble Alpes, France, France Oral120

11:15am – 11:30am      Zoppi G: Optimizing biocrude production from straw and manure through methanol co-solvent hydrothermal liquefaction, Aarhus university, Denmark Oral128

11:30am – 11:45am      Ghysels S: Biomass pyrolysis under reactive nitrogen atmosphere to N-heterocyclic aromatics, Ghent University, Belgium Oral131

11:45am – 12:00pm      Lehtinen J: Pyrolysis of multilayer films - Recycling from laboratory to pilot, VTT, Finland, Oral133

12:00pm – 12:15pm      Bartolucci L: Atmospheric catalytic hydrolysis of hazelnut shell: impact of catalyst loading on bio-oil quality, University of Rome Tor Vergata - Dep. Industrial Engineering, Italy oral134

12:15pm – 12:30pm      Roubaud A: Products evolution and HTL conversion mechanism for algal biomass, CEA-LITEN, France Oral138

12:30pm-12:45pm      Alsharqawi R: Towards Circularity of Flame-Retarded Expanded Polystyrene via Pyrolysis: Recovering Styrene and Addressing Bromine, Karlsruhe Institute of Technology (KIT), Germany, Oral 141

12:45pm – 1:00pm	Appelman E: High-yield conversion of polyolefin waste to steam-cracker-range hydrocarbon by simultaneously suppressing light gas formation and enhancing heavy-end conversion, Aduro Clean Technologies, Canada Oral148
12:30pm – 1:30pm	Lunch
1:30pm – 3:30pm	Networking / Free time
3:30pm – 4:00pm	Coffee Break
4:00pm – 4:15pm	Brojolall N: Hydrothermal liquefaction of Dutch digestate: A path to renewable fuels, TU Delft, Netherlands oral149
4:15pm – 4:30pm	Biller P: Development of an Integrated Hydrothermal Liquefaction and Wet Oxidation Process, Aarhus university, Denmark Oral153
4:30pm – 4:45pm	De Caprariis B: Recycling cellulose acetate waste from eyewear production: pyrolysis vs. hydrothermal liquefaction, Sapienza University of Rome, Italy, Oral164
4:45pm – 5:00pm	Lavrenov V: Two-stage pyrolytic conversion of biomass into synthesis gas. JIHT, Russia Oral166
5:00pm – 5:15pm	Faleeva Y: The process of synthesis gas production by two-stage pyrolysis under pressure, JIHT RAS, Russia Oral167
5:15 pm – 5:30pm	Shafaghat H: Cross-linked polyethylene to naphtha and diesel range hydrocarbons via catalytic pyrolysis. RISE Research Institutes of Sweden AB, Sweden Oral184
5:30 – 5:45pm	Bhatwadekar SS: Continuous Biomass Liquefaction: A Step Towards Commercializing Green Fuels. Aalborg University, Denmark, Oral178
5:45pm – 7:30pm	<b>Poster Session</b>
7:30 – 10:00pm	Conference Banquet

#### **Thursday, September 18, 2025**

7:30am - 8:30am	Breakfast
8:45am – 9:15am	Keynote
9:15am – 9:30am	Lilti H: Lignin conversion to OH-enriched oligomers. CNRS, Univ. Lyon 1, France Oral183
9:30am – 9:45am	Tito E: Optimization of pretreatment conditions for the two-stage hydrothermal liquefaction, Politecnico di Torino, Italy Oral147
9:45am – 10:00am	Geantet Ch, The Challenge of Upgrading Renewable Htl Oils for Fuels Production, CNRS, France, Oral113
10:00am – 10:15am	Batalha N: Pyrolysis Oil Stabilization: Insights into Catalyst Deactivation, IRCELYON, CNRS, France Oral116
10:15am -11:00am	Coffee Break

11:00am – 11:15am	Baser B: Upgrading wood and waste fast pyrolysis oils by esterification, Technical University of Denmark, Oral 117
11:15am – 11:30am	Torri C et al. The power of Silylation: Toward a Molecular Description of Liquids from Pyrolysis and Hydrothermal treatments. Università di Bologna, Italy, Oral119
11:30am – 11:45am	Hertzog J: Input of ultra-high-resolution mass spectrometry for bio-oil characterization and upgrading monitoring, Université de Lorraine, France, Oral126
11:45am – 12:00pm	Mora Sanjuan M: Biorefinery strategies for the production and separation of value-added chemicals from biomass pyrolysis liquids, Forest Science and Technology Centre of Catalonia, Spain Oral132
12:00pm – 12:15pm	Siddiq F: Catalytic hydrotreatment as a driver for the circularity of plastics. VTT technical research center of Finland, Finland, Oral136
12:15pm – 12:30pm	Garcia-Perez M: Processing of second generation unconventional oils in petroleum refineries. WSU, USA, Oral156
12:30 pm – 12:45pm	Monaco S: Hydrothermal Liquefaction Of Mixed Plastic Waste: Conversion And Resource Recovery, Sapienza University of Rome, Italy Oral150
12:45pm – 1:00pm	Auersvald M: Hydrocracking of pyrolysis oil from waste polyolefins: increasing the quality of steam cracking feedstock, UCT Prague, Czech Republic, Oral151
1:00pm – 1:30pm	Lunch
1:30pm – 3:30pm	Networking / Free time
3:30pm – 4:00pm	Coffee Break
4:00pm – 4:15pm	Martins T: Pyrolysis of Coconut Husk: Temperature Influence Unveiled by a Comprehensive Characterization of Bio-oil Using Appti (–)-FT-Orbitrap MS, Federal University of Sergipe, Brazil, Oral160
4:15pm – 4:30pm	Le Brech Y: Applications of Benchtop Nuclear Magnetic Resonance spectroscopy as a monitoring tool for liquid products, CNRS, France Oral162
4:30pm – 4:45pm	Amato D: Effect of phase separation on the aging behavior of slow pyrolysis bio-oil. Istituto di Scienze e Tecnologie per l'Energia e la Mobilità Sostenibili (STEMS-CNR), Italy
4:45pm – 5:00pm	Scorcioni F: Speciation of heteroatom-containing pyrolysis oils by multidetector GCxGC. University of Bologna, Italy Oral185
5:00pm – 5:15pm	Manna et al: Investigation of Non-Catalytic Dry Reforming of Several Bio-oil Components, STEMS-CNR, Italy Oral177
5:15pm – 5:30pm	McCarthy D: Hydrotreatment of municipal waste pyrolysis oils for marine fuel. Topsoe A/S, Denmark Oral182
5:30pm – 5:45pm	Boehme M: Mild Upgrading of pyrolysis oils from post consumer waste with low-cost materials - Towards renewable maritime fuels. Oral186, DTU, Topsoe, Denmark, Oral 186



5:4 pm – 6:00pm	Perez B: Synergistic effects in co-pyrolysis of waste electrical and electronic equipment (WEEE) and municipal solid waste (MSW) plastic-rich fractions. Bilbao School of Engineering (UPV/EHU), Spain Oral171
6:00pm – 6:15pm	Rahman M: Formation and Characteristics of Oil Products from Waste Tyre Pyrolysis in Different Pryolysis Reactors, Curtin University, Australia
6:15pm – 7:00pm	Networking / Discussion / Free time
7:30pm – 9:00pm	Dinner
9:00pm – 9:30pm	Short (3 minute) Poster Previews

### **List of Posters**

1. Straka Valorization strategies for polyolefin-rich pyrolysis oils Post109
  2. Ciccone Pyrolysis and in-line catalytic cracking of a polyolefin mixture using a commercial HZSM-5 catalyst Post110
  3. Jeaidi Combustion characteristics of pyrolysis oil blends for navigating maritime energy transition Post116
  4. Jeaidi Biomass pyrolysis-based framework to reduce GHG emission intensity of synthetic crude oil through synergic co-utilization of biomass residues in Alberta Post117
- 9:30pm – 10:30pm      **Poster Session** / Social Networking

### **Friday, September 19, 2025**

7:30 am – 9:00 am	Breakfast
	Departures