Transforming Waste: Advanced Thermochemical Conversion Processes for Chemical Engineers

Mini-course UNICAMP 2025 by Luis Cutz

Gain a comprehensive understanding of modern thermochemical conversion techniques for waste plastic and biomass. Three intensive sessions will help you improve your knowledge in waste valorisation, and lay the groundwork for a transformational career in green energy innovation.

Mini-Course Outline:

Session 1: Biomass Characterization – The Foundation of Process Design.

Session 2: Torrefaction & Storage – Enhancing Feedstock for Thermochemical Conversion.

Session 3: Hydrothermal Liquefaction (HTL) – Converting Biomass into Biofuels and beyond.

Course workload: 4-6 hours

Dr Luis Cutz is an Assistant Professor at the department of Process & Energy, Faculty of Mechanical Engineering at TU Delft in the Netherlands. He develops thermochemical technologies to convert waste materials into chemicals, biofuels or new raw materials. These products can serve for power generation, transport fuels, horticultural applications, batteries and a source to manufacture new polymers.

His research group develop experimental methods to study and optimize the conversion of plastic waste/biomass from micro to macroscale. This approach allows them to scale processes from simulation to laboratory scale.

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