

Hydrothermal conversion of biomass feedstocks

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Experimental and theoretical research in our group is focused on using thermochemical processing involving pyrolysis and/or hydrothermal liquifaction to convert a range of biomass feedstocks from dairy and food wastes to algae containing carbohydrates, proteins and triglycerides and fatty acids in varying amounts to drop-in transportation fuels, sugars, syngas and biochar. In this MEng project students would assist group team members in conducting laboratory-scale experimental conversion studies with kinetic, phase equilibria and mass transport issues considered. The main objectives are to characterize the effects of operating temperature, pressure, and residence time on product yield and to identify the main reaction pathways.