



Universita Ca'Foscari Venezia

Dipartimento di Scienze Molecolari e Nanosistemi

## **Supercritical Water** Actions and Reactions During the Thermal Decomposition of Plastic and Biomass Waste

**16 giugno 2025** , 12.00 Aula Delta 1A

## Prof. **Thomas Maschmeyer** Faculty of Science, The University of Sydney

As the demand for sustainable solutions increases, particularly in the context of climate change, there is a growing need to optimize resource utilization and develop effective pathways for upcycling existing biomass and end-of-life mixed plastic waste to fuels and chemicals. This discussion focuses on the potential of near- and supercritical water for these conversions, which are currently being introduced at scale around the globe. New work based on model compounds will be used to better describe the multiple modes of action of water and explain why the formation of coke is highly suppressed when using this approach as compared to pyrolysis.