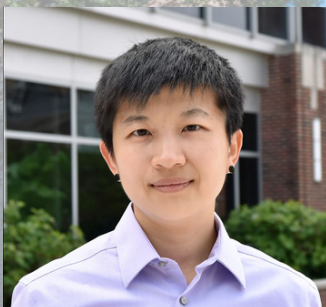


# Graduate Seminar



**Yalin Li, PhD**

**Assistant Professor in the Department  
of Civil and Environmental Engineering  
at Rutgers University - New Brunswick**

**October 7, 2024 (4:00 pm - 5:30 pm), Kupfrian Hall - Room 205**

**[Zoom Link: Click Here](#) Meeting ID: 994 3917 6432 Passcode: 058807**

## **The Magic of Pressure Cooking: Hydrothermal Systems for Waste Valorization**

### **Abstract**

More than 100 million metric tones of wet organic wastes are produced each year in the US, representing a very real challenge for waste management due to their high production rate and the inefficiency of conventional management methods. At the same time, these waste streams represent untapped resources that can be repurposed into valuable products. Hydrothermal liquefaction (HTL) is an emerging technology that leverages the unique properties of water at elevated temperature and pressure (e.g., increase in ionic product and organic solubility) to convert heterogeneous organic materials into an oil-phase biocrude, an aqueous phase, hydrochar, and gas products. Through various upgrading technologies, these intermediates can then be further turned into biofuels and fuel additives, platform chemicals, construction materials, and fertilizer products. This talk will provide an overview of the principles and applications of hydrothermal waste valorization systems, while discussing the sustainability and future research needs of these systems in comparison with existing waste management strategies.

### **About the Speaker**

*Yalin Li is an assistant professor in the Department of Civil and Environmental Engineering at Rutgers University - New Brunswick. Her research focuses on advancing the sustainability of water, energy, and civil infrastructure through integrated experimentation and sustainable design. Specifically, she applies thermochemical and catalytic technologies for resource recovery and develops open-source platforms for sustainable design and decision-making. Prior to joining Rutgers, Yalin was a Research Scientist at the Center for Advanced Bioenergy and Bioproducts Innovation at the University of Illinois Urbana-Champaign (UIUC), where her work has centered around the field-to-market bioeconomy value chain as well as sanitation and resource recovery facilities.*



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