UNIVERSITY OF DELAWARE | CENTER FOR COMPOSITE MATERIALS

DISTINGUISHED SEMINAR SPEAKER

Dr. Sara Simon

Global Sector Manager for Composites & Thermosets at NETZSCH Instruments NA

October 14, 2025 | 10:00 AM

101 Academy St., Room 106

Characterize. Simulate. Optimize: Process Simulation & Cure Modeling of Fiber-Reinforced Composites

Abstract:

This seminar covers process flow simulation of fiber-reinforced polymers, emphasizing the key input parameters and the use of rheometers and thermal analysis tools to characterize material behavior prior to simulation. Automotive case studies will demonstrate how accurate data enhances simulation accuracy. The second part of the seminar covers cure rate modeling for structural composites, introducing a composition-responsive kinetics model. A case study on a bike rim will illustrate how this approach enables process optimization.

Bio:

Dr. Sara Simon is the Global Sector Manager for Composites & Thermosets at NETZSCH Instruments North America, where she leads global initiatives focused on advancing thermal analysis, rheology, and fire testing technologies for polymers and composites. With over nine years of experience spanning academia and industry, Sara has driven innovation in multi-material, sustainable mobility solutions, polymer processing, and simulation-driven validation and composite design optimization.

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