

# Transforming the Northwest Energy System NWESS 2026



University of Washington  
Alder Hall  
April 1-2, 2026



**Speaker:** Fei Ding

**Title:** Managing Distributed Energy Resources to Improve Grid Reliability, Affordability, and Resilience

**Abstract:** Distributed Energy Resource Management Systems (DERMS) have emerged as a critical platform for coordinating distributed energy resources to support grid reliability, affordability, and resilience. This presentation provides an overview of the current state of the DERMS market. Building on this foundation, the talk then introduces an advanced, utility-validated DERMS framework that integrates high-fidelity digital twins, real-time data analytics, and advanced DER controls to enable scalable, secure, and interpretable DER coordination. Through real-world use cases and field-tested demonstrations, the presentation illustrates how coordinated management of distributed generation, storage, and flexible demand can reduce operational costs, mitigate congestion and voltage violations, enhance outage response, and extend islanded microgrid survivability.

**Bio:** Mr. Mendoza is currently a Senior Researcher at the Grid Automation & Control Group of the Power Systems Engineering Center at NREL. He is the technical lead for several projects focused on distributive generation, demand response, microgrid, battery energy storage, interoperability, and power hardware-in-the-loop (PHIL) testing for operational planning and optimization of electricity markets, resiliency, and reliability. Particularly in the context of integrating increasing levels of variable renewable generation and grid edge control.

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