Enabling Resilience for the DER-rich Power Distribution System

Keynote Session A I

Date: Friday, Dec 17, 2021   **Time: 09:00 AM-09:55 AM**

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Abstract:

During adverse weather or cyber events, keeping the power on to critical facilities such as hospitals and fire department is essential. A number of resources are available with the integration of distributed energy resources (DER) to improve the sustainability in normal operation and resiliency of the critical loads during adverse events in active distribution system. There is a need for formal metrics to quantify the resiliency of the distribution electric grid, or different configurations of the same network. Additionally, advanced algorithms and tools are needed for the situational awareness and decision support to coordinate the DER management strategies for the distribution grid operators. This talk will cover the basics of DER integration, machine learning for estimating behind the meter DER, defining resiliency, DER based restoration, and a tool to study the resiliency of the DER-rich electric distribution grid.