



Energy Storage To Support Grid Resilience in the Presense of Renewable Generation

August 25th, 2022 @ 6:00PM - 8:30PM

2301 Maitland Center Parkway, Maitland, FL 32751
First Floor Conference Room

Presented By: Joydeep Mitra, Ph.D. of Michigan State University

Since the beginning of this century, we have witnessed an acceleration in the adoption of renewable energy resources and technologies. Various forces - social, political, economic, regulatory, and technological - have driven the proliferation of numerous technologies that enable the conversion, control, and integration of renewable energy resources. Despite their well-known benefits, these resources pose some challenges to grid operation. Concomitantly, there has been an emergence of factors such as extreme weather that also threaten the reliability of electric service. These elements have contributed to an increased awareness of grid resilience. Resilience encompasses several diverse factors and presents wide-ranging opportunities for innovation.

This talk will provide an introduction to grid resilience and its accompanying challenges and opportunities, particularly in the presence of renewable generation. It will discuss the fundamental aspects of resilience and traditional measures, both strategic and tactical, that are employed in modern grids to ensure resilience. It will discuss the impacts of renewable resources, particularly those resulting from the variability and the low-inertia characteristics of these resources, and illustrate these impacts with examples. It will present approaches for understanding and quantifying these impacts. It will explain how variability can be countered with systems and technologies ranging from storage and transmission expansion to demand response and "smart grid" control technologies. It will discuss the impacts on grid frequency regulation and the use of storage and operational strategies to mitigate them. The talk will conclude with a discussion of ongoing research toward ensuring grid resilience.

- Free Event
- Food & Drink Provided
- 2 PDH / 0.2 CEU offered for \$10 fee

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Online registration open until
August 25th @ 1:00PM:
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