



PSERC WEBINAR

Investigating Power System Dynamic Simulations with High Levels of Inverter Based Resources

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Understanding power system dynamics with high penetrations of inverter based resources requires re-thinking how we perform dynamic simulations. This is because the number of resources is growing as time constants decrease and even overlap with electromagnetic transient dynamics, which leads to increased computational requirements. In this talk I will discuss some of my group's recent efforts to accelerate power system dynamic simulations and to understand the modeling requirements for large scale interaction studies between different resources. I'll show how we are developing and using new power system simulation tools, how we are using machine learning methods to accelerate parts of the simulation pipeline, and how we are investigating conditions in which EMT solvers could be required to investigate power system dynamics.

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[LINK TO WEBINAR](#)

1:00-2:00 P.M. ET

(10:00-11:00 A.M. PT)

Duncan Callaway is Professor and Chair of Energy and Resources Group at UC Berkeley, with an affiliate appointment in Electrical Engineering and Computer Science, and a Faculty Scientist at Lawrence Berkeley National Laboratory. He received his PhD from Cornell University and subsequently worked in the energy industry, first at Davis Energy Group and later at PowerLight Corporation. He was a member of the research faculty of the Center for Sustainable Systems at the University of Michigan before joining UC Berkeley. Dr. Callaway's teaching covers energy systems with a focus on the electrical grid and data science methods. His research group focuses on decarbonizing the grid with a focus on power system operations and planning, and by developing control, optimization and data analysis tools to facilitate renewables integration into power systems.

