

Speaker: Kumaraguru Prabakar, senior research engineer in the Power Systems Engineering Center at the National Renewable Energy Laboratory in Golden, Colorado.

Title: Use of applied mathematics to solve power system challenges

Abstract – The field of power systems has utilized mathematical tools to model, simulate, and optimally control power system assets. The last decade has seen tremendous growth in novel power system assets distributed across the power systems. These assets need to be modeled, simulated and controlled for resilient and reliable operation. Utilities are investing in distributed energy resources, infrastructure to support electrified transportation, and advanced metering infrastructure to measure the system's state and aid optimal control. These developments have created the need for the immediate use of novel mathematical tools developed in the last 20 years. This presentation will cover two projects that utilized and plan to use mathematical tools to achieve a resilient power system infrastructure.