



**SMART GRID CENTER**  
TEXAS A&M ENGINEERING EXPERIMENT STATION

## SGC WEBINAR

### **Cyber-Physical Resilient Energy Systems: A Secure Foundation for Next-Generation Energy Management**

**Katherine Davis**

Texas A&M University

Abstract: In this talk, we present a briefing on our Cyber-Physical Resilient Energy Systems (CYPRES) project funded by the US Department of Energy Cyber Security for Energy Delivery Systems (DOE-CEDS) program. The vision of CYPRES is a cyber-physical energy management system that would allow the energy system to be modeled and managed together with its data, communications, and security. The focus is on ensuring effective cyber-physical situational awareness and control under adversarial presence, leveraging both power and cyber measurements and coordinating mitigations to maintain or regain reliable operation of the power system during such an attack. Testbeds are an important aspect of implementing and validating this type of research; in this talk, we also discuss ongoing efforts at our Texas A&M Resilient Energy Systems Lab and its intended role to enable more work in this area.

**January 14, 2021 at 1:00 P.M. CST**

**Register in advance at**

<https://tamu.zoom.us/meeting/register/tJcpd--sqj0uE9QTRdmXFVX1jKRwxuo8sOd->



Katherine Davis is an Assistant Professor in the Department of Electrical and Computer Engineering at Texas A&M University (TAMU). Prior to joining Texas A&M in 2017, Dr. Davis was a Software Engineer and Senior Consultant for PowerWorld Corporation. Dr. Davis was then with University of Illinois's Information Trust Institute as a Research Scientist. Her expertise includes large-scale modeling, analysis, and simulations of cyber-physical critical infrastructure, with particular interest in security-oriented control system analysis techniques. She received her M.S. and Ph.D. degrees in Electrical and Computer Engineering from University of Illinois at Urbana-Champaign and B.S. degree from The University of Texas at Austin. Dr. Davis is a Senior Member of IEEE in PES and COMSOC and a member of ASEE, HKN, and Tau Beta Pi. She is also the faculty advisor of Texas A&M's Student Chapters of IEEE-PES-PELS-IAS and HKN.