Bio

Chen Chen received the B.S. and M.S. degrees from Xi'an Jiaotong University, Xi'an, China, in 2006 and 2009, respectively, and the Ph.D. degree in electrical engineering from Lehigh University, Bethlehem, PA, USA, in 2013.

Presently, he is a Professor with the School of Electrical Engineering at Xi'an Jiaotong University, Xi'an, China. Prior to joining XJTU, he has over six-year service at Argonne National Laboratory, Lemont, IL, USA, with the last appointment as Energy Systems Scientist at Energy Systems Division. His research interest includes power system resilience, distribution systems and microgrids, demand side management, and cyber-physical system analysis. He was an editor of IEEE Transactions on Smart Grid. He is also the recipient of the IEEE PES Chicago Chapter Outstanding Engineer Award in 2017.

Title: Utilizing Distributed Renewable Energy Sources to Achieve Resilient Distribution Systems

Abstract:

Due to the energy transition process, distribution systems will feature a high penetration of distributed renewable energy sources (RESs). The multiple distributed generation can provide emergency power supply to critical loads against blackouts caused by natural disasters and malicious attacks, and this supply continuity capability could improve the distribution system resiliency. However, the uncertainty of RESs, the control mode variation of RESs together with energy storage systems, and the interaction among distribution system operator (DSO) and RESs add increasing difficulties to service restoration decisions. This talk will introduce the concept of power system resilience, the methods for resilience enhancement, and specifically discuss the pathway and methodologies of utilizing distributed RESs to improve system resiliency.