OVERVIEW

The overall penetration level of Distributed Energy Resources (DERs) is growing significantly due to ongoing cost decreases and greater public interest towards renewable energy. However, this requires the introduction of new planning, management, reliability, and cybersecurity strategies that address upcoming challenges. Among the pending issues is analyzing the risks of large-scale DER deployments when these become part of large-scale networks, like the Internet of Things (IoT).

Furthermore, the distributed nature of DER presents challenges as devices are increasingly owned and controlled by outsiders, while utilities have insufficient oversight to mandate strong security levels for these devices. Therefore, an array of new technical challenges must be addressed by stakeholders to manage this emerging risk. This presentation introduces novel approaches to identify, measure and mitigate threats to grid operations based on DER-targeted attacks. The talk then touches lightly on the risks of open data and its implications to the power grid; particularly on the ways that the information can be abused by unauthorized parties.

BIOS

D. JONATHAN SEBASTIAN, a PhD candidate in Computer Science at WSU, received his BE and MS degrees in Electrical Engineering from the Instituto Politécnico Nacional, Mexico City, Mexico, in 2013 and 2015, respectively. His current research interests include cybersecurity of large-scale systems and privacy issues.

ADAM HAHN is an Assistant Professor in ESIC at WSU. His academic interests include both teaching and researching cybersecurity, specifically for the smart grid, critical infrastructure, and other cyber-physical systems. Originally, from Iowa, he performed his undergraduate and graduate work at the University of Northern Iowa and Iowa State University respectively. He also worked at the MITRE Corporation, primarily doing cybersecurity testing and researching cyber-physical system security.