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and Computer Engineering
UNIVERSITY OF WISCONSIN-MADISON



SEMINAR NOTICE

Monday, January 29, 2018
4:00 – 5:00pm, RM 1800 EH

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Challenges and Approaches for a Trustworthy Power Grid Cyber Infrastructure

Abstract - *The vision for a modernized "Smart Grid" involves the use of an advanced computing, communication and control cyber infrastructure for enhancing current grid operations by enabling timely interactions among a range of entities. The coupling between the power grid and its cyber infrastructure is inherent, and the extent to which the Smart Grid vision can be achieved depends upon the functionality and robustness of the cyber infrastructure. This talk describes some of the research results from the DOE- and DHS-funded Trustworthy Cyber Infrastructure for the Power Grid (TCIPG; tcipg.org) Center and Cyber Resilient Energy Delivery Consortium (CREDC; cred-c.org) which are aimed at ensuring that the power grid cyber infrastructure is protected both from accidental failures and malicious attacks from adversaries ranging from casual hackers to nation states. The goal of TCIPG and CREDC is to provide resilience in the nation's electric grid cyber infrastructure such that it continues to deliver electricity and maintain critical operations even in the presence of cyber attacks. Achieving this goal will involve the extension, integration, design, and development of IT technologies imbued with key properties of real-time availability, integrity, authentication and confidentiality.*

Biography - *William H. Sanders is a Donald Biggar Willett Professor of Engineering and the Head of the Department of Electrical and Computer Engineering (www.ece.illinois.edu) at the University of Illinois at Urbana-Champaign (illinois.edu). He is also a professor in the Department of Computer Science. He is a Fellow of the IEEE, the ACM, and the AAAS; a past Chair of the IEEE Technical Committee on Fault-Tolerant Computing; and past Vice-Chair of the IFIP Working Group 10.4 on Dependable Computing. He was the founding Director of the Information Trust Institute (www.iti.illinois.edu) at Illinois (2004-2011), and served as Director of the Coordinated Science Laboratory (www.csl.illinois.edu) at Illinois from 2010 to 2014.*

Dr. Sanders's research interests include secure and dependable computing and security and dependability metrics and evaluation, with a focus on critical infrastructures. He has published more than 270 technical papers in those areas. He served as the Director and PI of the DOE/DHS Trustworthy Cyber Infrastructure for the Power Grid (TCIPG) Center (tcipg.org), which did research at the forefront of national efforts to make the U.S. power grid smart and resilient. He is currently the co-PI of the DOE/DHS funded Center and Cyber Resilient Energy Delivery Consortium (cred-c.org). He was the 2016 recipient of the IEEE Technical Field Award, Innovation in Societal Infrastructure, for "assessment-driven design of trustworthy cyber infrastructures for societal-scale systems." He is also a co-developer of a tool for assessing the security of networked systems that is available commercially under the name NP-View from the startup company Network Perception, which he co-founded.