



# IEEE

## Ottawa Section



Seminar by IEEE ComSoc/BTS/CES Ottawa Joint Chapter, IEEE PES Ottawa Chapter and IEEE Algonquin College Student Branch are inviting all interested IEEE members and nonmembers to a seminar on

## Communications for the Smart Grid

by

Dr. Stephen Bush, Researcher at General Electric Global Research,  
Niskayuna, NY, USA

**DATE:** Tuesday, April 12, 2011.  
**TIME:** Registration, Refreshments & Networking: 6:30 pm.; Seminar: 7:00 pm - 08:00 pm  
**PLACE:** [Algonquin College](#), Room T129, T-Building, 1385 Woodroffe Ave., Ottawa, On., Canada  
**PARKING:** Parking area # 9. Please respect restricted areas. No fee after 5:00 p.m.  
**ADMISSION:** Free. Registration required. To ensure a seat, please register by e-mail contacting: Wahab Almuhtadi at [almuhtadi@ieee.org](mailto:almuhtadi@ieee.org).

### Abstract

Electric power grids around the world are rapidly evolving to make more extensive use of communication technology. New intelligent electronic devices are being developed and deployed in which communications is becoming a ubiquitous and natural part of power systems allowing new forms of collaborative behavior. An analogy is often made between the interconnection of personal computers many decades ago resulting in the rise of the Internet and what is happening within the power grid today. However, the power grid is a large and complex machine with many aspects; it comprises a very broad set of topics. This hour-long talk will begin with a review of power systems and focus upon emerging communications capabilities within the power grid including: metering and demand-response, distributed generation, fault detection isolation and restoration, and a brief overview of emerging standards. We will end with a discussion of more speculative innovations that may impact the smart grid further into the future.

### Biography

Stephen F Bush received the B.S. degree in electrical and computer engineering from Carnegie Mellon University, Pittsburgh, PA, the M.S. degree in computer science from Cleveland State University, Cleveland, OH, and the Ph.D. degree from the University of Kansas, Lawrence. He is currently a Researcher at General Electric Global Research, Niskayuna, NY. Before joining GE Global Research, he was a Researcher at the Information and Telecommunications Technologies Center (ITTC), University of Kansas. He has been the Principal Investigator for many DARPA and Lockheed Martin sponsored research projects including: Active Networking (DARPA/ITO), Information Assurance and Survivability Engineering Tools (DARPA/ISO), Fault Tolerant Networking (DARPA/ATO), and most recently, Connectionless Networks (DARPA/ATO), an energy aware sensor network project. He is the author of Nanoscale Communication Networks (Norwood, MA: Artech House, 2010). He coauthored a book on active network management, titled Active Networks and Active Network Management: A Proactive Management Framework (New York, NY: Kluwer Academic/Plenum Publishers, 2001). He has taught Quantum Computation and Communication at RPI and Computer Communications at the State University of New York at Albany. Dr. Bush is the past chair of the IEEE Emerging Technical Subcommittee on Nanoscale, Molecular, and Quantum Networking. He is also on the steering committee for the IEEE Smart Grid Vision Project.