

## **Seminar Talk**

**Ms. Christina James**  
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**Friday, October 26, 2018**  
**3:00 p.m. KH 224**

**Title:** A Novel Power-Sharing Controller of Distributed Generators in Dc Power Networks

**Abstract:**

Power sharing control is critical in power system operations to keep multiple generators working together simultaneously and thus maintain the stability of power system. With the development of renewable energy resources and microgrid in recent years, an effective power sharing control is a desirable solution for distributed generators (DGs, such as solar panels and fuel cells) in DC power networks. To meet this goal, we desired a novel power sharing controller (PSC) based on the concept of droop control methodology. The proposed PSC can be applied to an individual DG to regulate its output power quickly and accurately. The PSC was formulated, modeled and verified by simulation studies of steady-state and transient stability tests. The optimized coupling resistance of PSC was identified. Also, the interaction of PSC and communication delay was studied. The interference of communication delay is negligible to PSC performance. The PSC can be generally applied to DC-natural generators in both islanded and grid-connected microgrids.

**Bio:**

Ms. Christina James is a graduate student in the Department of Electrical and Computer Engineering at Old Dominion University. She received her B.E. degree from Anna University in India and is currently working under Dr. Yucheng Zhang, Assistant Professor in the Department of Electrical & Computer Engineering, on DC Distribution Network and smart homes.