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RENEWABLES | SMART GRID | STORAGE | SUSTAINABLE MOBILITY | SUSTAINABILITY ANALYSES

PRESENTED BY THE WATERLOO INSTITUTE FOR SUSTAINABLE ENERGY

Wednesday September 30, 2015
11am-12pm
DC 1304

MICROGRID ANALYSIS, OPTIMIZATION & IMPLEMENTATION

Professor Dr. Bala Venkatesh, Lecturer, Department of Electrical and Computer Engineering; Academic Director, Center of Urban Energy at Ryerson University

Research on microgrids plays a key role in advancing the use of energy storage and renewable energy at the customer level. Features such as electrical power generators, energy storage units and loads allow microgrids to disconnect from the main utility grid and operate independently. By doing this, microgrids can improve reliability of the power grid as a whole by operating in island mode when the main grid is not available. Microgrids also help increase the penetration of renewable sources of energy by locally managing generation and demand mismatches.

A lab scale microgrid was designed and implemented in The Smart Grid Lab at the Center for Urban Energy at Ryerson University. Analysis and optimization tools were built for analysis of microgrids with unbalanced Three-Phase AC and DC network section interconnected using PI- models.

In this lecture, Professor Venkatesh will detail these developments.

Biography

Prof, Dr. Bala Venkatesh is both founding academic director and head of the Centre for Urban Energy (CUE) at Ryerson University, where he is a tenured professor in the Department of Electrical and Computer Engineering. After receiving his Ph.D. from Anna University (India), Dr. Venkatesh returned as a lecturer in 1994 before moving on to associate professorships at Multimedia University in Malaysia and the University of New Brunswick before arriving at Ryerson in 2008.

Dr. Venkatesh has previously acted as Investigator for two significant research projects funded by Hydro One and Toronto Hydro and has had his research successfully applied in several consulting projects in both India and Canada.

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