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*Electrical & Computer Engineering*  
**S E M I N A R**  
Louisiana State University

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**Power Electronics and their  
Applications in Power Systems**

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**Abstract**—Power electronics is the application of semiconductor devices for control and conversion of electrical energy. Such power converters play a vital role in power systems and can be found in any application that needs to modify one form of electrical energy such as; renewable energy integration, power transmission and power distribution. This talk discusses future trends in power electronics in modern 21st century power systems.

Energy saving is one of the important issues in today world. It has been estimated that with the widespread use of efficient and cost-effective power electronics technology, the world could see a 35% reduction in energy consumption. To integrate and optimize the power electronic converters for specific applications is necessary to further increase efficiency and reduce volume and cost. These concepts will be discussed in detail using ongoing research projects at Rockwell Automation and Ryerson University as examples. It will focus on the structure of high power converters in industrial motor drives and renewable energy integration. The challenges will be reviewed and the new power converters that have significant potential for commercialization will be discussed.

**Bio**—Mehdi Narimani received his B.S. and M.S degrees from Isfahan University of Technology (IUT), Isfahan, Iran and his PhD degree from University of Western Ontario, Canada, all in electrical engineering. He is currently a Postdoctoral Research Associate at the Department of Electrical and Computer Engineering at Ryerson University and Rockwell Automation Canada. He worked as a faculty member of Isfahan University of Technology from 2002 to 2009 where he supervised/assisted several industrial projects. He is the author/co-author of more than 50 journal and conference proceeding papers, four patents, more than 40 technical reports and co-author of one book in the area of power conversion and energy systems. His current research interests include power conversion, high power, application of power electronics in power systems, and renewable energy systems.

**When:** Tuesday, 31 March 2015, 13:00 - 14:00  
**Where:** Room 338 ERAD  
**Info:** <http://www.ece.lsu.edu/seminar>

