

## SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

Faculty of Engineering

Website: <https://www.eng.nus.edu.sg/ece/>

**Area: Smart Grids**

**Host: Prof Dipti Srinivasan**

**Organized By:**

**Green Energy Management and Smart Grid Research Center (GEMS),  
Department of Electrical & Computer Engineering,  
National University of Singapore**

<b>TOPIC</b>	:	<b>A Stochastic Optimization Framework for Energy Management in an Industrial Micro-grid during unscheduled Islanding Periods</b>
<b>SPEAKER</b>	:	<b>Mr Rahul Bhujade Graduate student, ECE Dept, NUS</b>
<b>DATE</b>	:	<b>14 January 2020, Tuesday</b>
<b>TIME</b>	:	<b>3pm to 4pm</b>
<b>VENUE</b>	:	<b>E6-06-02, EUREKA ROOM 1, Engineering Block E6, Faculty of Engineering, NUS</b>

### ABSTRACT

An unplanned islanding event initiated by a grid disturbance can be economically expensive for industry. Since an industry contains loads that are interdependent, improper management could result in a complete halt in the work resulting in financial losses. Usually, an unplanned islanding event initiated by a grid disturbance can be economically expensive for industry. Since an industry contains loads that are interdependent, improper management could result in a complete halt in the work resulting in financial losses. Usually, the duration of an islanding event is characterized by uncertainty. Thus an Energy Management responsible for handling the outage should consider uncertainty related to outage duration, high inter-dependency of industrial load, and onboard generation in order to minimize the impact of islanding events on the economic operation of the industry. Here we proposed an Energy Management Framework based on stochastic Optimization for scheduling of industrial loads and onboard local generation during unscheduled islanding period. The developed model is a MILP/MIQP based on the models for individual components and can be efficiently solved. Case studies are performed on test micro-grid with manufacturing loads and their results will be presented.

### BIOGRAPHY

Rahul Bhujade received the B.Tech. degree in Electrical Engineering from Indian Institute of Technology, Mandi in 2016. He is currently pursuing the Ph.D. degree in electrical and computer engineering at National University of Singapore, in collaboration with Robert Bosch, Singapore. He worked with the Power Electronics Lab at General Electric Global Research Centre, Bangalore, India during 2016-2017 on wireless power transfer for application in Electric Vehicles and Mobile chargers. His current research interests include for resiliency oriented energy management of microgrids.

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