

Walied Alharbi, PhD

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EDUCATION

PhD, Electrical and Computer Engineering Department, University of Waterloo, 2014-2018

Title of the thesis: Flexibility Provisions from Energy Hubs for Sustainable Energy Systems

Thesis Supervisor: Prof. Kankar Bhattacharya

MASc, Electrical and Computer Engineering Department, University of Waterloo, 2011– 2013

Title of the thesis: Coordinated Operation of Distributed Energy Resources in Renewables Based Microgrids under Uncertainties

Thesis Supervisor: Prof. Kankar Bhattacharya

Academic Intensive English Program, University of California Los Angeles, 2010-2011

BASc, Electrical Engineering Department, Qassim University, Saudi Arabia, 2005-2009

RESEARCH INTERESTS

Power system flexibility, renewable energy based systems, electric vehicles and smart grid.

WORK EXPERINCE

Research Assistant, Electrical and Computer Engineering, University of Waterloo, 2011- 2018

- Research techniques for integration of renewable energy sources and electric vehicles-based energy hubs

Teaching Assistant positions, Electrical and Computer Engineering, University of Waterloo, Canada,

- ECE 390: Engineering Design, Economics, and Impact on Society: Fall 2015
- ECE 668: Distribution Systems Engineering: Winter 2013

Teaching Assistant, Electrical Engineering Department, King Saud University, September 2009 – February 2010

- Supervised course labs
- Conducted tutorials to students
- Marked assignments and exams

Operating Engineer, Saudi Electricity Company, Riyadh, Saudi Arabia, May 2009–August 2009

- Gained experience with Saudi grid's operation and maintenance

AWARDS

- PhD Scholarship to study at the University of Waterloo, 2014- 2018
- Student Excellent Award, Saudi Arabian Cultural Bureau, 2012-2018
- MSc Scholarship to study at the University of Waterloo, 2011- 2013
- Academic English scholarship to study at the University of California Los Angeles, 2010-2011

PROGRAMMING SKILLS

- Excellent skills for solving optimization problems in power systems using GAMS and MATLAB
- Excellent use of MS Office (Word, Excel, Power Point, and EndNote)

PUBLICATIONS

- W. Alharbi and K. Bhattacharya, " Flexibility Provisions from a Fast Charging Facility Equipped with DERs for Wind Integrated Grids," *IEEE Transactions on Sustainable Energy*, accepted (early access).
- W. Alharbi and K. Bhattacharya, "Pricing of flexibility provisions from a reinforced electric vehicle charging facility with DERs", IEEE Canada Electrical Power and Energy Conference (EPEC) 2018, Toronto, Canada, October 2018.
- W. Alharbi and K. Bhattacharya, Impact of mixed charging requests of PEVs on a charging facility load and a distribution grid, Proc. 2017 IEEE Green Energy and Smart Systems Conference (IGESSC), Long Beach, California, USA, Nov 2017.
- W. Alharbi and K. Bhattacharya, "Electric vehicle charging facility as a smart energy microhub," *IEEE Transactions on Sustainable Energy*, pp.616-628, April 2017.
- W. Alharbi, K. Raahemifar, "Probabilistic coordination of microgrid energy resources operation considering uncertainties", *Electric Power Systems Research*, 2015.

- W. Alharbi, K. Bhattacharya, “Accommodating high penetration of renewable generation in remote microgrids under uncertainties” IEEE Canada, Electrical Power and Energy Conference (EPEC), Calgary, Canada, October 2014.
- W. Alharbi, K. Bhattacharya, “Coordination of Demand Response and Energy Storage in Microgrids for Optimal Utilization of Distributed Energy Resources”, CIGRÉ Canada Conference, Calgary, Canada, October 2013.
- W. Alharbi, K. Bhattacharya, “Demand Response and Energy Storage in MV Islanded Microgrids for High Penetration of Renewables”, IEEE Canada Electrical Power and Energy Conference (EPEC), Halifax, Canada, August 2013.

PROFESSIONAL AFFILIATIONS

- Institute of Electrical and Electronic Engineering (IEEE), Graduate Student Member: 2010- Present
- IEEE Power and Energy Society (IEEE PES) Member: 2011- Present

SCHOLARLY ACTIVITIES

Reviewer (Journals/ Conferences)

- IEEE Transactions on Smart Grid
- IEEE Transactions on Intelligent Vehicles
- IEEE Power and Energy Society (PES) General Meeting

REFERENCE

Provided upon request