



Qusay Salem

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Summary

Organized assistant professor providing my experience assisting senior professors and mentoring students in the field of Electrical Power and Energy Engineering. Intelligent and enthusiastic educator committed to helping students accomplish academic goals. Skilled at explaining material and concepts to address varied learning levels and modalities. Active researcher with a group of seniors in the field.

Skills

- Experienced in Windows 7, 10, MS Office applications Word, Excel, and Powerpoint.
- Very Good Knowledge in Modelling, Design and Programming using Matlab/Simulink.
- Experienced with testing and verification of Simulink models with Real Time Simulators.
- Basic Knowledge in LabVIEW, PSPICE, C, and C++.
- Well organized during work, accurate of meeting deadlines, highly cooperative and effective team worker.
- Experienced with online learning strategies.

Experience

Assistant Professor - 09/2020 to Present

Princess Sumaya University for Technology, Amman-Jordan

Responsibilities and duties:

- Conducting teaching of several bachelor courses and a master course for the Electrical Power and Energy Engineering program by using a variety of learning modalities and support materials to facilitate learning process. The courses included are:
 - Optimal Power Systems
 - Power Systems Protection
 - High Voltage Engineering
 - Electric Circuits (1)
 - Electric Machines (1)
- Supervision of several undergraduate senior graduation projects for the Electrical Power and Energy Engineering program. The projects included are:
 - Design and time domain simulation of a grid-connected low voltage Microgrid

- Design and frequency domain simulation of a grid-connected low voltage Microgrid
 - Design and simulation of an islanding detection scheme for a grid connected DG system
 - Design and simulation of a grid-connected low voltage Microgrid based on P/V droop Control
 - Design and simulation of an islanded microgrid due to intentional Islanding
 - Design and simulation of a three-phase grid-feeding power Converter
- Internal and external examiner for several master theses in the Electrical Engineering master program. The titles included are:
 - SVC based voltage stability enhancement using an ANN
 - The application of artificial neural network (ANN) in PV generation prediction: case study-Jordan
 - Comparative study of wind turbine modeling techniques: physical modeling, subspace identification, and artificial neural Networks
 - Stability improvement of power systems using shunt Compensation
 - Multiple processes modeling and simulation of cleaner supercritical thermal power plants using the grey wolf Optimizer
 - Established research agenda with several researchers in the field to publish in peer-reviewed Scopus-indexed Journals and to build a roadmap for research proposals.
 - Member in the electrical engineering department council where regular meetings were arranged to discuss department related issues such as academic programs, teaching methods, learning resources etc.
 - Former member in the faculty of engineering council where regular meetings were arranged to discuss and monitor the work of the faculty departments, improve the academic standards, deal with staff and students' issues etc.
 - Member of the focus group for the electrical power and energy engineering program where regular meetings were arranged to discuss the issues related to the program.

PhD Research Scholar - 01/2015 to 02/2020

University of Ulm, Ulm-Germany

Responsibilities and duties:

- Modeling and control of DC/AC single and three phase power converters for microgrid applications in low-voltage distribution network.
- Development of power flow algorithms including optimization tools for power management purposes in low voltage microgrid systems.
- Development of protection schemes to perform islanding and resynchronization process in case of short circuit events (intentional and unintentional).
- Supervisor of bachelor and master theses in the field of decentralized microgrids
- Participating in international IEEE conferences and seminars
- Publishing the new ideas and results in peer-reviewed scopus indexed international journals

Teacher Assistant - 10/2011 to 12/2012

Yarmouk University, Irbid-Jordan

Responsibilities and duties:

- Supervisor of Electric Circuits Lab
- Preparing assignments, quizzes, and research papers in the grid integration with renewable sources.

Trainee Engineer - 04/2010 to 10/2010

NEPCO, Irbid-Jordan

Responsibilities and duties:

- Making switching operations in power substations for the sake of maintenance and testing of various power substations components.

Education

University of Ulm, Ulm-Germany, 01/2015 – 02/2020

PhD in Electrical Power and Energy Engineering

Dissertation Title: "A Transformerless H-Bridge Inverter as a Bidirectional Power Flow Controller in a Microgrid Based P/V Droop Control"

Yarmouk University, Irbid-Jordan, 02/2011 – 01/2013

Master of Science in Electrical Power Engineering

Thesis Title: "Impact of Integration of FACTS Devices on Wind Farm Connected to Medium Voltage Grid Under Healthy and Faulty Conditions"

Mutah University, Alkarak-Jordan, 10/2004 – 08/2009

Bachelor of Electrical Engineering-Power and Control

Research Interests

- Microgrids operation and control.
- Decentralized power control.
- Stability and security of utility grid connected to distributed and renewable energy sources.
- Modeling and control of power converters.
- Advanced transmission and distribution systems.
- FACTS devices applications.
- Applications of power electronics in Power Systems.

List of Publications

1. **Qusay Salem**, Khaled Alzaareer; Salman Harasis, "A performance comparison of series power flow control structures in a smart microgrid", *International Journal of Power Electronics and Drive Systems*, Vol. 13, pp. 908-917, 2022.
2. Salman Harasis; Saher Albatran; Eyad Almaita; Khaled Alzaareer; **Qusay Salem**, Mamdouh Alghaythi; Mohammad Arifur Rahman, "Enhanced dynamic performance of grid feeding distributed generation under variable grid inductance", *International Journal of Electrical & Computer Engineering*, Vol. 12, pp. 1113-1122, 2022.
3. Khaled Alzaareer ; **Qusay Salem** ; Claude Ziad El-Bayeh ; Salman Harasis ; Al-Motasem I Aldaoudeyeh ; Ahmad MA Malkawi ; Ali Q Al-Shetwi, "Development of New Admittance Matrix for Newton-Raphson Power Flow in Distribution Networks", *Mathematical Modelling of Engineering Problems*, Vol. 9, pp. 168-177, 2022.
4. Al-Motasem Aldaoudeyeh; Khaled Alzaareer; Salman Harasis; Zeyad Al-Odat; Mohammad Obeidat; Ayman Mansour; Di Wu; **Qusay Salem**, "A new method to fit logistic functions with wind turbines power curves using manufacturers datasheets", *IET Renewable Power Generation*, Vol. 16, pp. 287-299, 2022.
5. Khaled Alzaareer; Maarouf Saad; Hasan Mehrjerdi; **Qusay Salem**; Salman Harasis; Al-Motasem I Aldaoudeyeh; Hussein MK Al-Masri, "Sensitivity Analysis for Voltage Stability Considering Voltage Dependent Characteristics of Loads and DGs", *IEEE Access*, Vol. 9, pp. 156437-156450, 2021.
6. **Qusay Salem**; Khaled Alzaareer; Salman Harasis, "Operation Mode Transition of a Low-Voltage Single Phase Microgrid based on Synchronization Controller", *International Journal on Electrical Engineering and Informatics*, Vol. 13, No. 3, pp. 554-565, 2021.
7. Salman Harasis; Karar Mahmoud; Saher Albatran; Khaled Alzaareer; **Qusay Salem**, "Dynamic Performance Evaluation of Inverter Feeding a Weak Grid Considering Variable System Parameters", *IEEE Access*, Vol. 9, pp. 126104-126116, 2021.
8. **Qusay Salem**; Khaled Alzaareer, "Detailed analysis of grid connected and islanded operation modes based on P/U and Q/f droop characteristics", *International Journal of Power Electronics and Drive System*, Vol. 12, No. 2, pp. 772-782, 2021.
9. Salman Harasis; Ahmad Y Omishat; **Qusay Salem**; Khaled Alzaareer; Al-Motasem Aldaoudeyeh; Mamdouh L Alghaythi, "Flexible Operation of Hybrid Distributed Energy System Based on Reliability Redundancy", *International Journal of Renewable Energy Research*, Vol. 11, No. 2, pp. 638-646, 2021.
10. **Qusay Salem**; Khaled Alzaareer, "Fault Ride-Through Capability with Mutual Inductance in Low Voltage Single-Phase Microgrid", *IETE Journal of Research*, Taylor and Francis, DOI: 10.1080/03772063.2020.1800524 , Aug 2020.
11. Khaled Alzaareer; Ziad Claude El-bayeh; **Qusay Salem**, "Grid-Connected PV Systems: Impact Evaluation & Optimal Allocation and Sizing for Losses Minimization and Voltage Improvement (Jordanian Case Study)", *Journal of Electrical and Electronics Engineering*, Vol. 12, No. 2, 2019.
12. **Qusay Salem**; Libo Liu ; Jian Xie, "Dual Operation Mode of a Transformerless H-Bridge Inverter in Low-Voltage Microgrid", *IEEE Transactions on Industry Applications*, Vol. 55, No. 5, pp. 5289-5299, 2019.

13. **Qusay Salem**; Jian Xie, "Decentralized power control management with series transformerless H-bridge inverter in low-voltage smart microgrid based P/V droop control", *International Journal of Electrical Power & Energy Systems, Elsevier*, Vol. 99, pp. 500-515, 2018.
14. **Qusay Salem**; Jian Xie, "A Novel line current control strategy to control the real power flow at PCC using H-bridge Inverter", *International Journal of Power Electronics and Drive Systems*, Vol. 9, pp. 602-609, 2018.
15. **Qusay Salem**; Jian Xie, "Decentralized power control management with series transformerless H-bridge inverter in low-voltage smart microgrid based P/V droop control", *International Journal of Electrical Power & Energy Systems, Elsevier*, Vol. 99, pp. 500-515, 2018.
16. **Qusay Salem**, Ibrahim Altawil, "Stability Study of Grid Connected to Multiple Speed Wind Farms with and without FACTS Integration", *International Journal of Electronics and Electrical Engineering*, Vol. 2, No. 3, 2014.
17. **Qusay Salem**, Ibrahim Altawil, "Transient Stability Enhancement of Wind Farm Connected to Grid Supported with FACTS Devices", *International Journal of Electrical Energy*, Vol. 2, No. 2, 2014.
18. **Qusay Salem**, "Overall Control Strategy of Grid Connected to Wind Farm Using FACTS", *Bonfring International Journal of Power Systems and Integrated Circuits*, Vol. 4, No. 1, 2014.
19. Libo Liu; Boyang Li; Gunther Götting; Yusheng Xiang; **Qusay Salem**; Muhammad Hamid, Jian Xie, "Loss Minimization of Traction Systems in Battery Electric Vehicles Using Variable DC-link Voltage Technique--Experimental Study", *The 22nd European Conference on Power Electronics and Applications*, Lyon, Sep. 2020.
20. **Qusay Salem**, Libo Liu and Jian Xie, "Islanding and resynchronization process of a grid-connected microgrid with series transformerless H-bridge inverter installed at PCC", *2018 IEEE International Conference on Environment and Electrical Engineering and 2018 IEEE Industrial and Commercial Power Systems Europe (EEEIC / I&CPSEurope)*, Palermo, June. 2018.
21. **Qusay Salem**, Octavio Munoz and Jian Xie, "An overall power flow algorithm to control the active power transfer at PCC in LV-distribution network", *2018 IEEE International Conference on Industrial Technology (ICIT)*, Lyon, Feb. 2018.
22. **Qusay Salem**; Jian Xie, "Active power control using an alternative series connection scheme between the utility grid and Microgrid", *2016 IEEE 16th International Conference on Environment and Electrical Engineering (EEEIC)*, Florence, June. 2016.

Awards and Certificates

- Award of DAAD PhD scholarship from Deutscher Akademischer Austausch Dienst.
- Awards to attend three IEEE International Conferences from University of Ulm.

Journal Reviewing

- IEEE Transactions on Industrial Electronics
- IEEE Access
- International Transactions on Electrical Energy System – Wiley
- International Journal of Emerging Electric Power Systems – De Gruyter
- IETE Journal of Research – Taylor and Francis

Languages

Arabic — Native Speaker
English — Advanced
German — Intermediate

Referees

Upon Request