

# Ala A. Hussein, PhD, SMIEEE

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Google Scholar: <https://scholar.google.com/citations?user=dErFvHAAAAAJ&hl=en>

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## My Short Bio

I am an Energy Storage and Power Electronics expert and Senior IEEE Member with over 7 years of combined industrial, research and teaching experience. I started my career working as a Battery Software Engineer between 2011 and 2012 at Coda Automotive, a California based startup specialized in developing battery management systems for electric vehicles where I led the company's efforts in enhancing the performance of the battery management system. I then worked with the Department of Electrical Engineering at the United Arab Emirates University between 2012 and 2016, and in 2016, I joined the Department of Electrical Power Engineering at Yarmouk University. I also hold a joint appointment with the University of Central Florida where I am currently a Research Associate with the Florida Solar Energy Center and the Electrical and Computer Engineering Department since 2018. My responsibilities include conducting world-class research, presenting research findings at high-quality conferences, publishing in leading journals, writing grant proposals along with the university faculty and supervising graduate students. I have been awarded multiple Research Excellence awards, successfully competed for a number of research grants totaling around \$0.4M and published over 40 papers in leading refereed journals and conference proceedings.

## EDUCATION

- Ph.D. • Electrical Engineering, University of Central Florida, Orlando, USA, August, 2011.  
Cumulative GPA: 3.94/4.00.
- M.S. • Electrical Engineering, University of Central Florida, Orlando, USA, May, 2008.  
Cumulative GPA: 3.75/4.00.
- B.S. • Electrical Engineering, Jordan University of Science and Technology, Irbid, Jordan, June, 2005.

## PROFESSIONAL EXPERIENCE

### First: Research, Consulting & Industry Experience

Feb. 2018 – present     *Research Associate*, Florida Solar Energy Center and Electrical & Computer Engineering Department, University of Central Florida, 4000 Central Florida Blvd, Orlando, FL 32816, USA.

I write grant proposals, do world-class research and supervise graduate students.

July 2014 – Aug. 2014     *Consultant*, Florida Power Electronics Center, University of Central Florida, 12201 Research Parkway, Orlando, FL 32826, USA.

I developed interactive practical examples for Electrical Networks undergraduate course. I also helped writing grant proposals and evaluating simulation tasks.

July 2011 – July 2012     *Battery Software Engineer*, Coda Automotive, 2340 S. Fairfax Ave, Los Angeles, CA 90016, USA.

I led the company's efforts in developing advanced battery monitoring techniques.

### Second: Academic Experience

Sep. 2016 – present     *Assistant Professor*, Department of Electrical Power Engineering, Yarmouk University, Irbid, Jordan.

I write grant proposals, teach graduate/undergraduate courses, supervise undergraduate students and serve in departmental committees.

Aug. 2012 – *Assistant Professor*, Department of Electrical Engineering, United Arab Emirates University (UAEU), Al Ain, UAE.

The Electrical Engineering program at UAEU is ABET-accredited. During my employment, my responsibilities included writing grant proposals, teaching graduate/undergraduate courses, supervising graduate/undergraduate students and serving in departmental committees.

## RESEARCH GRANTS

1. (PI) Applied Research Grant (Yarmouk University Deanship of Scientific Research and Graduate Studies): Smart PV Powered LED Light with Battery Monitoring System; **20,000 JD (equivalent to \$28,200)**, December 2017-December 2019.
2. (PI) Startup Research Grant (UAEU Research Office): *Improving the Cycle-life and Cost-efficiency of Backup Batteries in Stand-alone Photovoltaic Applications in UAE*; **460,000 AED (equivalent to \$124,200)**, January 2014-December 2015.
3. (PI) Seed Grant (UAEU Research Office): *Solar Battery Chargers with Effective State-of-Charge Estimation*; **30,000 AED (equivalent to \$8,100)**, January 2013-December 2013.
4. (Co-PI) UAEU Interdisciplinary Center-based Research Grant Competition: *Residential Emergency Demand Response using Complex Bid Model for Islanded Micro-grids with Droop Control of DG*; **735,000 AED (equivalent to \$200,000)**, January 2016-December 2019.
5. (Co-PI) Internal Research Grant (UAEU Research Office): *Evaluation of Effect of Oil and Gas Industrial Environments on Efficiency and Life Span of PVs and Batteries*; **120,000 AED (equivalent to \$32,700)**, June 2014-June 2016.

## REFEREED PUBLICATIONS (published and accepted only)

### Journal Publications

#### *i) IEEE Transactions*

1. **Ala A. Hussein** "Adaptive Artificial Neural Network Based Models for Instantaneous Power Estimation Enhancement in Electric Vehicles' Li-ion Batteries", accepted to the IEEE Transactions on Industry Applications, August, 2018.
2. Menatalla S. Eldin, **Ala A. Hussein**, Mamoun F. Abdel-Hafez "Improved Battery SOC Estimation Accuracy using a Modified UKF with an Adaptive Cell Model under Real EV Operating Conditions", IEEE Transactions on Transportation Electrification, Volume 4, Issue 2, pp. 408-417, June, 2018.
3. **Ala A. Hussein**, Abbas A. Fardoun, Samantha S. Stephen "An Ultrafast Maximum Power Point Tracking Technique for Optimal Battery Charging", IEEE Transactions on Sustainable Energy, Volume 8, Issue 3, pp. 1321-1329, July, 2017.
4. Menatalla S. Eldin, Mamoun F. Abdel-Hafez, **Ala A. Hussein** "Enhancement in Li-ion Battery Cell State-of-Charge Estimation Under Uncertain Model Statistics", IEEE Transactions on Vehicular Technology, Volume 65, Issue 6, pp. 4608-4618, June, 2016.
5. **Ala A. Hussein**, Abbas A. Fardoun, Samantha S. Stephen "An Online Frequency Tracking Algorithm using Terminal Voltage Spectroscopy for Battery Optimal Charging", IEEE Transactions on Sustainable Energy, Volume 7, Issue 1, pp. 32-40, January, 2016.
6. **Ala A. Hussein** "Capacity Fade Estimation in Electric Vehicles Li-ion Batteries using Artificial Neural Networks", IEEE Transactions on Industry Applications, Volume 51, Issue 3, pp. 2321-2330, June, 2015.
7. **Ala A. Hussein**, Nasser Kutkut, John Shen, Issa Batarseh "Distributed Battery Micro-storage Systems Design and Operation in a Deregulated Electricity Market", IEEE Transactions on Sustainable Energy, Volume 3, Issue 3, pp. 545-556, July, 2012.

8. **Ala A. Hussein**, Issa Batarseh "A Review of Charging Algorithms for Nickel and Lithium Battery Chargers", IEEE Transactions on Vehicular Technology, Volume 60, Issue 3, pp. 830-838, March, 2011.

***ii) Other Journals (Non-IEEE Transactions)***

9. **Ala A. Hussein**, Abbas Fardoun "Design Considerations and Performance Evaluation of Outdoor PV Battery Chargers", Elsevier Renewable Energy Journal, Volume 82, pp. 85-91, October, 2015.
10. **Ala A. Hussein** "Derivation and Comparison of Open-loop and Closed-loop Neural Network Battery State-of-Charge Estimators", Elsevier Energy Procedia Journal, 75 (2015), pp. 1856-1861.
11. **Ala A. Hussein** "Kalman Filters versus Neural Networks in Battery State-of-Charge Estimation: A Comparative Study", International Journal of Modern Nonlinear Theory and Applications, Volume 3, Issue 5, pp. 199-209, December, 2014.
12. Zahi M. Omer, Ahmed M. Alameri, Abbas A. Fardoun, **Ala A. Hussein** "Comparison of Discharge Performance of 12V/150Ah Gel and AGM Sealed Lead-acid Batteries in Stand-alone PV-based Systems in UAE" Renewable Energy & Power Quality Journal (RE&PQJ), ISSN: 2172-038 X, No. 12, April, 2014.

**Conference Publications**

***i) IEEE Conferences***

1. Mahmoud Alharbi, **Ala A. Hussein**, Issa Batarseh "Dual Optimization of an H-Bridge SPWM Microinverter by an Optimal Switching Frequency Tracking Technique", IEEE IECON Conference, Washington, D.C., October 21 – 23, 2018.
2. **Ala A. Hussein**, Abbas A. Fardoun "An Adaptive Sensorless Measurement Technique for Internal Temperature of Li-ion Batteries Using Impedance Phase Spectroscopy", IEEE ECCE Conference, Portland, Oregon, September 23 – 27, 2018.
3. **Ala A. Hussein**, Anirudh Pise, Xi Chen, Issa Batarseh "Adaptive Dual Maximum Power Point Tracking Algorithm for PV DC-DC Conversion Stage", IEEE ECCE Conference, Portland, Oregon, September 23 – 27, 2018.
4. **Ala A. Hussein**, Anirudh Pise, Xi Chen, Issa Batarseh "Enhancement of Li-ion Battery Performance at Low Temperatures by DC-DC Converter Duty-cycle Autotuning", IEEE ECCE Conference, Portland, Oregon, September 23 – 27, 2018.
5. Xi Chen, Anirudh Pise, **Ala A. Hussein**, Issa Batarseh "Parameter Extraction of Ultracapacitor's Equivalent Circuit Model Using a Genetic Algorithm Approach", IEEE ECCE Conference, Portland, Oregon, September 23 – 27, 2018.
6. **Ala A. Hussein** "A Sensorless Surface Temperature Measurement Method for Batteries using Artificial Neural Networks", IEEE ECCE Conference, Portland, Oregon, September 23 – 27, 2018.
7. **Ala A. Hussein** "A Neural Network Based Method for Instantaneous Power Estimation in Electric Vehicles' Li-Ion Batteries", 32<sup>nd</sup> IEEE Applied Power Electronics Conference (APEC'17), Tampa, Florida, March 26-30, 2017.
8. Hasna A. Seiri, **Ala A. Hussein**, H. H. Zeineldin "An Adaptive P-f Droop Approach for Micro-grid Transition Detection", IEEE Industrial Electronics Society's 18<sup>th</sup> International Conference on Industrial Technology (ICIT) , Toronto, Canada, March 22-25, 2017.
9. Samantha S. Stephen, Zahi M. Omer, Abbas A. Fardoun, **Ala A. Hussein** "Parameter Estimation of Valve Regulated Lead Acid Batteries Using Metaheuristic Evolutionary Algorithm", 59<sup>th</sup> IEEE International Midwest Symposium on Circuits and Systems (MWSCAS), Abu Dhabi, United Arab Emirates, October 16-19, 2016.
10. **Ala A. Hussein**, Abbas A. Fardoun, Samantha S. Stephen "A Maximum Power Point Tracking Technique for Optimal Li-ion Battery Charging", IEEE Power and Energy Society (PES) General Meeting, Boston, Massachusetts, July 17-21, 2016.
11. Zahi M. Omer, Abbas A. Fardoun, **Ala A. Hussein** "Large Scale Photovoltaic Array Fault Diagnosis for Optimized Solar Cell Parameters Extracted by Heuristic Evolutionary Algorithm", IEEE Power and Energy Society (PES) General Meeting, Boston, Massachusetts, July 17-21, 2016.

12. **Ala A. Hussein**, Abbas A. Fardoun, Samantha S. Stephen "An On-line Tracking Algorithm for Li-ion Batteries' Optimal Charging Frequency", IEEE Power and Energy Society (PES) General Meeting, Denver, Colorado, July 26-30, 2015.
13. **Ala A. Hussein** "Experimental Modeling and Analysis of Lithium-ion Battery Temperature Dependence", 30<sup>th</sup> IEEE Applied Power Electronics Conference (APEC'15), pp. 1084-1088, Charlotte, North Carolina, March 15-19, 2015.
14. **Ala A. Hussein** "Capacity Fade Estimation in Electric Vehicles Li-ion Batteries using Artificial Neural Networks", IEEE Energy Conversion Congress & Expo (ECCE), Denver, Colorado, pp. 677-681, September 15-19, 2013.
15. **Ala A. Hussein**, Issa Batarseh "Energy Management for a Grid-tied Photovoltaic-Wind-Storage System—Part II: Operation Strategy", IEEE Power and Energy Society (PES) General Meeting, Vancouver, British Columbia, Canada, July 21-25, 2013.
16. **Ala A. Hussein**, Issa Batarseh "An Overview of Generic Battery Models", IEEE Power and Energy Society (PES) General Meeting, Detroit, Michigan, July 24-28, 2011.
17. **Ala A. Hussein**, Issa Batarseh "State-of-Charge Estimation for a Single Lithium Battery Cell Using Extended Kalman Filter", IEEE Power and Energy Society (PES) General Meeting, Detroit, Michigan, July 24-28, 2011.
18. **Ala A. Hussein**, Nasser Kutkut, Issa Batarseh "A Hysteresis Model for a Lithium Battery Cell with Improved Transient Response", 26<sup>th</sup> IEEE Applied Power Electronics Conference (APEC'11) Proceedings, pp. 1790-1794, Fort Worth, Texas, March 6-10, 2011.
19. **Ala A. Hussein**, Souhib Harb, Nasser Kutkut, John Shen, Issa Batarseh "Design Considerations for Micro Storage Systems in Residential Applications", 32<sup>nd</sup> IEEE International Telecommunications Energy Conference Proceedings, pp. 1-6, Orlando, Florida, June, 6-10, 2010.
20. **Ala A. Hussein**, Michael Pepper, Issa Batarseh, Ahmad Harb "An Efficient Solar Charging Algorithm for Different Battery Chemistries", 5<sup>th</sup> IEEE Vehicle Power and Propulsion Conference Proceedings, pp. 188-193, Dearborn, Michigan, September, 7-11, 2009.

**ii) Non-IEEE Conferences**

21. Samantha S. Stephen, Zahi M. Omer, Abbas A. Fardoun, **Ala A. Hussein**, Hussain Shareef "Online Battery Parameters Estimation Using Two Metaheuristic Evolutionary Algorithms", Proceedings of the 5th International Conference on Emerging and Renewable Energy: Generation and Automation (ICEREGA'17), Belfort, France, July 4-6, 2017.
22. Mumin Abu Hassan, Nayef Hailat, Noor Badawi, **Ala A. Hussein** "A Wireless Power Transfer System with Optimized Circuit Parameters using Genetic Algorithm", 8<sup>th</sup> International Renewable Energy Congress, Dead Sea, Jordan, March 21-23, 2017.
23. Ahmad Musamih, Ahmad Al-Bloushi, Ahmed Al-Shemeili, Abdulaziz Al-Fili, **Ala A. Hussien** "Design of a Universal Wireless Battery Charger", 18<sup>th</sup> International Conference on Power and Energy Systems Engineering, Dubai, United Arab Emirates, January 28-29, 2016.
24. Alia Al-Nuaimi, Ayesha Al-Aberi, Faiza Al-Marzouqi, Shaikha Al-Yahyaee, **Ala A. Hussein** "A Photovoltaic Micro-Storage System for Residential Applications", 18<sup>th</sup> International Conference on Power and Energy Systems Engineering, Dubai, United Arab Emirates, January 28-29, 2016.
25. Abdulla M. Al-Bdwawi, Hamed I. Al-Ahbab, Shehab A. Al-Shamsi, **Ala A. Hussein** "Modular Photovoltaic Charging Station for UAE University Golf Carts", 7<sup>th</sup> International Conference on Applied Energy, Abu Dhabi, United Arab Emirates, March 28-31, 2015.
26. **Ala A. Hussein** "Derivation and Comparison of Open-loop and Closed-loop Neural Network Battery State-of-Charge Estimators", 7<sup>th</sup> International Conference on Applied Energy, Abu Dhabi, United Arab Emirates, March 28-31, 2015.
27. Zahi M. Omer, Ahmed M. Al-Ameri, Abbas A. Fardoun, **Ala A. Hussein** "An Experimental Study on Pulse Discharge of Gel and AGM Lead-acid Batteries by Varying the Frequency", UAE Graduate Student Research Conference (UAE GSRC'15), Abu Dhabi, United Arab Emirates, March 22-24, 2015.

28. Zahi M. Omer, Ahmed M. Al-Ameri, Abbas A. Fardoun, **Ala A. Hussein** “Comparison of Discharge Performance of 12V/150Ah Gel and AGM Sealed Lead-acid Batteries in Stand-alone PV-based Systems in UAE”, Proceedings of the International Conference of Renewable Energies and Power Quality (ICREPQ'14), Córdoba, Spain, April 7-10, 2014.
29. Alaa N. Hail, Boshra, Boshra A. Al-Shujaa, Waad K. Al-Beiey, **Ala A. Hussein**, Abbas A. Fardoun “Design Considerations of Digitally Controlled PV Battery Chargers”, Proceedings of the 3<sup>rd</sup> International Conference on Renewable Energy Generation and Application (ICREGA'14), pp. 655-665, Al Ain, UAE, March 2-5, 2014.
30. **Ala A. Hussein**, Issa Batarseh “Energy Management for a Grid-tied Photovoltaic-Wind-Storage System—Part I: Forecasting Models”, Proceedings of the 3<sup>rd</sup> International Conference on Renewable Energy Generation and Application (ICREGA'14), pp. 405-415, Al Ain, UAE, March 2-5, 2014.
31. **Ala A. Hussein**, Michael Pepper, Issa Batarseh, Ahmad Harb “Solar Charging Considerations for Common Battery Chemistries”, International Conference on Modeling, Simulation and Visualization Methods Proceedings, pp. 249-253, Las Vegas, Nevada, July 12-17, 2009.

## COURSES TAUGHT

- EPE 220 (Electric Circuit I).
- EPE 222 (Electric Circuit II).
- EPE 320 (Linear Control Systems).
- EPE 352 (Power Electronics).
- EPE 619 (Modern Control Theory).
- ELEC 320 (Electric Circuit II).
- ELEC 372 (Electromechanical Devices).
- ELEC 472 (Power Systems).
- ELEC 592 (Power Electronics).
- ELEC 629 (Advanced Topics in Power Engineering).

## SUPERVISION EXPERIENCE

### Research Assistants (1 research assistant)

1. *Samantha S. Stephen* (Aug. 2014 - Aug. 2016).
  - Project: Improving the Cycle-life and Cost-efficiency of Backup Batteries in Stand-alone Photovoltaic Applications in UAE.
  - Institution (and role): United Arab Emirates University, Al-Ain, UAE (main supervisor).

### PhD Students (1 student)

1. *Mahmoud Al Harbi* (Jan. 2017 – present)
  - Dissertation Topic: A New Dynamic PV Firming Control Algorithm Using Grid-Tied Three-Port Micro-Converter.
  - Institution (and role): University of Central Florida, Orlando, USA (co-supervisor).

### Master's Students (2 students)

1. *Hasna M. Alsayari* (Feb. 2015 – Dec. 2016)
  - Thesis Topic: An Islanding Detection Method for Micro-grids with Grid connected and Islanded Capability.
  - Institution (and role): United Arab Emirates University, Al-Ain, UAE (main supervisor).
2. *Samah M. Ahmed* (Aug. 2013-July 2014).
  - Thesis Topic: A Study of Discharging Techniques for High Capacity Gel and AGM Lead-acid Batteries.
  - Institution (and role): United Arab Emirates University, Al-Ain, UAE (co-supervisor).

## Undergraduate Students (35 students)

1. *Moayad Alqadi, Motasem Jaradat, Faris Rhayel, Souhib Shawabkeh* (Feb. 2018 – June 2018)
  - Graduation Project: Speed Controller Design for an Electric Vehicle DC Motor.
  - Institution (and role): Yarmouk University, Irbid, Jordan (main supervisor).
2. *Ahmad Harb, Ahmad Bataineh, Farah Bataineh, Ibrahim Tayyem* (Jan. 2017 – June 2017)
  - Graduation Project: Efficiency Optimization of DC-DC Converters by Frequency Varying Technique.
  - Institution (and role): Yarmouk University, Irbid, Jordan (main supervisor).
3. *Ayman Al Shoubaki, Qais Radaideh, Moath Yousef, Ammar Dwairi* (Sep. 2016 – May 2017).
  - Graduation Project: Economic Feasibility of Standalone Photovoltaic System in Yarmouk University Campus.
  - Institution (and role): Yarmouk University, Irbid, Jordan (main supervisor).
4. *Mumin Abu Hasan, Nayef Hailat, Noor Badawi* (Sep. 2016 – Jan. 2017).
  - Graduation Project: A Wireless Power Transfer System with Optimized Circuit Parameters using Genetic Algorithm.
  - University (and role): Yarmouk University, Irbid, Jordan (main supervisor).
5. *Bilal Kutkut, Mohamad Alian, Ahmad Abdulla* (Sep. 2016 – May 2017).
  - Graduation Project: Adaptive Maximum Power Point Tracking.
  - Institution (and role): Yarmouk University, Irbid, Jordan (main supervisor).
6. *Faiza Al-Marzooqi, Ayesha Al-Aberi, Alia Al-Nuaimi, Shaikha Al-Yahyae* (Aug. 2015 – May 2016).
  - Graduation Project: Photovoltaic Micro-storage System for Residential Applications.
  - Institution (and role): United Arab Emirates University, Al-Ain, UAE (main supervisor).
7. *Ahmad B. Musamih, Ahmed A. Murad, Ahmed H. Alshemeili, Abdulaziz Y. Abdulwahab* (Jan. 2015-Dec. 2015).
  - Graduation Project: Design of a Wireless Battery Charger.
  - Institution (and role): United Arab Emirates University, Al-Ain, UAE (main supervisor).
8. *Abdullah M. Bdwwawi, Hamed I. Ahbabi, Shehab A. Shamesi* (Jan. 2014 – Dec. 2014).
  - Graduation Project: Solar Charging Station for UAEU Golf Carts.
  - Institution (and role): United Arab Emirates University, Al-Ain, UAE (main supervisor).
9. *Alaa N. Hail, Waad K. Albeiey, Boshra A. Alshujaa* (Jan. 2013 – Dec. 2013).
  - Graduation Project: Digitally Controlled Solar Battery Charger with an Advanced State-of-Charge Estimation Capability.
  - Institution (and role): United Arab Emirates University, Al-Ain, UAE (main supervisor).
10. *Zahi M. Omer, Ahmed M. Alameri, Najm Krknawi* (Sep. 2013 – Dec. 2014).
  - Project: Improving the Cycle-life and Cost-efficiency of Backup Batteries in Stand-alone Photovoltaic Applications in UAE. Students helped performing battery testing and simulation tasks.
  - Institution (and role): United Arab Emirates University, Al-Ain, UAE (co-supervisor).

## INVITED PRESENTATIONS AND WORKSHOPS

- Invited Distinguished Speaker, IEEE International Conference & Exhibition on Energy Conservation and Efficiency (ICECE), University of Engineering and Technology, Lahore, Pakistan, Oct 16 – 17, 2018.
- Erasmus+ workshop (EU programme for education, training, youth and sport), Le Royal Hotel, Amman, Jordan, October 26<sup>th</sup>, 2016.
- ADRAC International R&D Academic Conference & Exhibition, Abu Dhabi, United Arab Emirates, February 23 – 27, 2014.

- ADRAC Research and Academics Workshop, Abu Dhabi, United Arab Emirates, February 26 – 28, 2013.
- U.S. NSF-sponsored workshop on Energy Education and Research: Addressing the Need for Industry, Abu Dhabi, United Arab Emirates, November 25 – 28, 2012.
- “Design Considerations for Micro-storage Systems in Residential Applications”, 2<sup>nd</sup> FESC Summit, University of Central Florida, Orlando, Florida, September 28<sup>th</sup>, 2010.
- “Power Conversion Technologies for Photovoltaic Applications”, U.S. NSF-sponsored International Research Experience for Students (IRES) Program, Jordan University of Science and Technology, Jordan, March 6<sup>th</sup>, 2008.

## **PROFESSIONAL ACTIVITIES**

- Member, Editorial Board of International Journal of Power and Renewable Energy Systems (IJPRES), 2013-present.
- Member, International Program Committee, the 9<sup>th</sup> International Renewable Energy Congress, Hammamet, Tunisia, March 20-22, 2018.
- Member, Steering Committee, the 8<sup>th</sup> International Renewable Energy Congress, Amman, Jordan, March 21-23, 2017.
- Member, Organizing Committee, 3<sup>rd</sup> International Conference on Renewable Energy Generation and Applications (ICREGA’14), Al Ain, UAE, March 2-5, 2014.
- Member, Technical Program Committee, 9<sup>th</sup> Jordan International Electrical and Electronics Engineering Conference (JIEEEEC’15).
- Senior Member, Institute of Electrical and Electronics Engineers (IEEE).
- Reviewer, IEEE Transactions on Power Electronics (since 2010).
- Reviewer, IEEE Transactions on Vehicular Technology (since 2010).
- Reviewer, IEEE Transactions on Industrial Electronics (since 2012).
- Reviewer, IEEE Transactions on Sustainable Energy (since 2012).
- Reviewer, IEEE Transactions on Energy Conversion (since 2015).
- Reviewer, IEEE Transactions on Instrumentation and Measurements (since 2018).
- Reviewer, Elsevier Energy Storage Journal (since 2018).
- Reviewer, Elsevier Applied Energy Journal (since 2016).
- Reviewer, Energies Journal (since 2012).
- Reviewer, Elsevier Renewable Energy Journal (since 2012).
- Reviewer, International Journal of Power and Renewable Energy Systems (since 2014).
- Reviewer, IEEE 7<sup>th</sup> International Symposium on Power Electronics for Distributed Generation Systems (PEDG’16).
- Reviewer, 2016 IEEE Energy Conversion Congress and Exposition (ECCE’16).
- Reviewer, 2016 IEEE Transportation Electrification Conference and Expo (ITEC’16).
- Reviewer, 2015 IEEE Power and Energy Society (PES) General Meeting (PES-GM’15).
- Reviewer, 6<sup>th</sup> International Renewable Energy Congress (IREC’15).
- Reviewer, 40<sup>th</sup> Annual Conference of the IEEE Industrial Electronics Society (IECON’2014).
- Reviewer, 3<sup>rd</sup> International Conference on Renewable Energy Generation and Application (ICREGA’14).
- Session Chair, 2015 UAEU Annual Research and Innovation Conference, Al Ain, United Arab Emirates, Nov. 24-25, 2015.
- Session Chair, 3<sup>rd</sup> International Conference on Renewable Energy Generation and Application (ICREGA’14), March 2-5, 2014.
- Judge, Students’ Posters Competition, IEEE PES General Meeting, Vancouver, Canada, July 21-25, 2013.
- Volunteer, Florida Energy Systems Consortium Summit, Orlando, USA, Sep. 28-29, 2010.
- Volunteer, IEEE Power Electronics Specialist Conference, Orlando, USA, June 17-21, 2007.

## **SERVICE AND DEPARTMENT / COLLEGE COMMITTEES**

- Course Equivalency Committee, Yarmouk University Electrical Power Engineering Department (Sep. 2016-present).
- Council Secretary, Yarmouk University Electrical Power Engineering Department (Sep. 2017-present).
- Head, UAEU Electrical Engineering Departmental Publicity Committee (2013-2016).
- Member, Search Committee, Power Systems Position (2014-2015)
- Member, UAEU College of Engineering Alumni Affairs Committee (2013-2014).
- Member, UAEU Electrical Engineering Departmental Research Committee (2014-2016).
- Member, UAEU 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> Electrical Engineering Students Activity Day Committee (2013, 2014 and 2015).
- Member, UAEU Electrical Engineering Departmental Curriculum Committee (2012-2014).
- Member, UAEU Electrical Engineering Department Teaching Load Committee (2013-2014).
- Member, a number of Master's thesis defense committees at UAEU.

## **HONORS AND CERTIFICATES**

- Research Excellence Award (2014, 2015, 2017, 2018).
- IEEE Continuing Education Certificate for attending the webinar "Transformative Role of Photovoltaics in the Transportation Sector" (awarded in November 2017).
- Recipient of a full-time Doctorate scholarship from the School of Electrical Engineering and Computer Science at University of Central Florida (2008-2011).
- Recipient of a full-time Master's scholarship from the School of Electrical Engineering and Computer Science at University of Central Florida (2007-2008).
- "Graduate Teaching Assistant (GTA) Certificate": A certificate awarded after fulfilling the requirement of a 12-week training program at the Faculty Center at the University of Central Florida (awarded in May 2010).