

# Ziyad S. D. Almajali

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## WORK EXPERIENCE

### Associate Professor

Aug 2015- Present

*Department of Electrical Engineering, Mutah University, Karak , Jordan*

As a Professor in Electrical Engineering, my responsibilities include developing and delivering undergraduate and graduate courses with a focus on power systems. I actively contribute to curriculum development, ensuring alignment with ABET accreditation. I employ innovative teaching methods like case studies, collaborate on research, and publish in reputable journals. I mentor and guide graduate students, supervising them to successful completion. Additionally, I serve on academic committees, review manuscripts, and engage with local communities and industry professionals through workshops and partnerships, enhancing research opportunities and student internships.

### Electrical engineering laboratory supervisor

Apr 1998- Oct 2011

*Department of Electrical Engineering, Mutah University, Karak , Jordan*

In this role, I provided guidance and assistance to students in lab experiments, troubleshooted technical issues, and collaborated with faculty to align lab exercises with the curriculum. I managed lab schedules, equipment, and resources, ensuring a safe environment. I also maintained and calibrated equipment, managed supplies, and recommended upgrades based on educational needs.

### Electrical engineer [Part time]

Oct 2010- Oct 2011

*Engineering office of Mutah University, Karak , Jordan*

In this role, duties: include design and executing electrical aspects of projects, collaborating with multidisciplinary teams for successful project completion. Notably, one recent project supervised was the "Panorama of Karak Castle Sound and Light," a prominent electrical project in Karak city's tourism development.

## EDUCATION

### PhD. in Electrical and Electronics Engineering, University of Liverpool

Liverpool, United Kingdom.

Aug 2015

### M.Sc. in Electrical and Computer Engineering, New York Institute of Technology

Amman, Jordan

May 2004

### B.Sc. in Electrical Engineering - Power, Mutah University

Karak, Jordan

Jun 1997

## ADMINISTRATIVE RULES

### **Head of Department**

*Department of Electrical Engineering, Mutah University, Karak , Jordan*

I am accountable for providing strategic leadership, supervising academic and administrative functions, ensuring resource efficiency, and promoting faculty development through research and effective teaching methods. I conduct regular performance evaluations, fostering a culture of continuous improvement.

**Jul 2018- Aug 2018**

*and Oct 2023- Present*

### **Director Assistance**

*Prince Faisal Center for Dead Sea, Environmental and Energy Research, Mutah University, Karak , Jordan*

Managed the transition period of the 5MW Solar PV Power Plant project from QAWAR company to Mutah University as it reaches its conclusion, and simultaneously managing the two-year operational and maintenance phase.

**Mar 2020- Oct 2023**

## MEMBERSHIPS

### **Jordan Engineers Association**

**Jun 1997- Present**

## HONORS & AWARDS

### **Best PhD students Poster**

University of Liverpool, Poster Day Online. 2013 (1st place).

**Apr 2013**

### **PhD Scholarship**

Mutah University. Jordan

**Oct 2011**

### **Top BSc Student in the Electrical Engineering Department/power engineering Award**

Mutah University. Jordan

**Jun 1997**

## RESEARCH SKILLS

- Publications in peer-reviewed journals.
- Conference presentations.
- Collaboration with other researchers.
- Served as a reviewer for academic journals and conferences.

## COURSES TAUGHT

### Postgraduate courses

- 0401730 Electrical Networks Automation and Protection
- 0401734 Renewable Electric Energy Systems
- 0401731 Sensors, Measurements and Smart Metering
- 0401734 Smart grids Components and functionalities

### Undergraduate courses

- 0401597 Electrical Machines Drive system
- 0401481 Power systems 1
- 0401464 Power Electronics
- 0401466 Power Electronics Lab
- 0401372 Electric Machines 1
- 0401375 Electrical machines
- 0401480 Renewable Electric Energy Systems
- 0401441 Automatic Control
- 0401465 Industrial Power Electronics
- 0401479 Electric Machines Lab
- 0401483 High Voltage
- 0401489 Power Systems Lab
- 0401549 Machines Controllers Lab
- 0401587 Power Systems Protection
- 0401589 High voltage and Protection Lab
- 0401583 Electrical Energy Management
- 0401550 Illumination and electrical installation
- 0401582 Power transmission and distribution
- 0401121 Principles of General Electricity
- 0401484 Power system simulation programming Lab

## LEADERSHIP & ADMINISTRATION

- Served as the department chair for two different periods, totalling around three years, and currently holding the position.
- Supervising graduate students. Mentored and advised 18 graduate students, all of whom successfully completed their dissertations under my guidance.
- Active participation in the department's ABET accreditation process by enhancing assessment procedures and outcomes.

## TEACHING SKILLS

- Effective use of teaching technologies and tools, and adaptability to changing educational environments and innovative teaching methods.
- Active participation on the department's study plan committee, preparing for ABET accreditation.
- Collaboration on the revision of both undergraduate and postgraduate study plans.
- Engagement in the improvement of several course syllabi and content to align with ABET requirements.
- Academic program development and management.
- Providing guidance and mentorship to undergraduate and graduate students in their academic and career pursuits.
- Consistently high teaching evaluations, with an average student rating of 84.49% over the past four semesters.

## MASTER'S THESES SUPERVISED

- Asala AL-Dmour, Integration of Hybrid Renewable Energy System Into The Grid Using Symmetrical and Asymmetrical Multi-Level Inverter. 2nd supervisor. From February 2020 to June 2021. The public defence 30/05/2021
- Banan Malahmeh, Stability Analysis of Microgrids with High Penetration of Renewable Energy Resources. 2nd supervisor. From February 2020 to June 2021. The public defence 01/06/2021
- Awj Tarawneh, Impact of Renewable Distributed Generators (RDGs) on the Voltage Profile of the Distribution System. 2nd supervisor. Since February 2020. The public defence 15/08/2021
- Mohanad Shakir, Design of Solar Photovoltaic System Based on Load Forecasting. Primary supervisor. Since February 2021. The public defence 13/12/2021
- Fahed Alramadin, A novel approach for automatic evaluation of the dust effect on the PV system efficiency. Main supervisor. from February 2021 to June 2022. The public defence 28/05/2022
- Ali Rasool. HVDC Transmission Lines Protection: Faults Analysis and Diagnosis . Primary supervisor. from February 2021 to June 2022. The public defence 20/06/2022
- Farah Al-Mahadeen, Investigation and Assessment of Cooling Systems for Photovoltaic Solar Modules. From February 2021 to June 2022. The public defence 30/05/2022
- Osama Al-sbou, Wind Energy Forecasting Using Artificial Neural Networks. Main supervisor. from October 2021 to 22th January 2023. The public defence 20/01/2023

## MASTER'S THESES UNDER SUPERVISION

- Hadeel Al-helalat, Detection and Classification of Power Quality Disturbance in Distribution Networks Based on Chromatic Monitoring 2nd supervisor Since October 2022

## PROJECTS

- Project: Optimal operating control strategy for domestic electrical water heaters.
  - Support: From Mutah university
  - Duration 24 months
  - Financial support 4500 JD
  - Rule: Main researcher
- Project: Design of a new wide area controller based on hardware-in-the-loop for the efficiency enhancement of the Jordanian power system.
  - Support: From Ministry of higher education
  - Duration 24 months
  - Financial support 74860 JD
  - Rule: Team member

## PUBLICATIONS

- Asala. S. Al-Dmour, H. D. Al-Majali, **Z. almajali**, "Staircase Modulation Using GWO Technique for CHB-MLI with Symmetrical and Asymmetrical Mode" International Journal of Engineering Trends and Technology 69 (8), 71-802021 ,
- H. D. Al-Majali, B. H. Al-Majali and **Z. S. Almajali**, 'Reduced Harmonics Generated and Reactive Volt-Ampere absorption of HVDC Converter Using By-Pass Switch' WSEAS Transactions on Systems and Control 2020.
- **Z. S. Almajali** and S. A. Aldmour, "Global Positioning System Based Dual Axis Tracker for Solar Car," 2023 *International Conference on Clean Electrical Power (ICCEP)*, Terrasini, Italy, 2023, pp. 565-570.
- **Z. S. Almajali**, "HVDC Faults Classification by Lab Color Based Monitoring System," WSEAS Transactions on Systems and Control, vol. 17, pp. 186-192, 2022
- Ali Alqatawneh, Luae Al-Tarawneh, **Z. S. Almajali** "Indexed-channel estimation under frequency and time-selective fading channels in high-mobility systems", International Journal of Electrical and Computer Engineering (IJECE), Vol 13, No 3, pp. 2865-2875. June 2023
- **Z. S. Almajali** and S. A. Aldmour, "Single-Axis Solar Tracker System for Maintaining Southward Orientation of Solar Cells in Solar Cars," 2023 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT), Amman, Jordan, 2023, pp. 211-216
- **Z. S. Almajali**, "A Discrimination Method Between Transformer Inrush and Fault Current Based on Chromatic Monitoring ," WSEAS Transactions on Power Systems, vol. 16, 2021
- **Z. S. Almajali**, "Discomfort Monitoring System for Residential Electrical Water Heater" International Journal of Engineering Trends and Technology (IJETT) – Volume-69 Issue-10 . 2021
- **Z. S. Almajali**, "Residential Electrical Water Heater Energy Efficiency Monitoring system, IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT) (Dead sea- Jordan), 2021

- **Z. S. Almajali**, 'Transmission Line Fault Diagnosis Using Chromatic Monitoring' Chapter 19 In book: Advanced Chromatic Monitoring By G. R. Jones, J. W. Spencer, ISBN 9780367409470, Taylor & Francis Group 2020.
- S. Al-Juboori, S. Al-Dmour and **Z. S. Almajali**, 'Smart residential house saving energy system' Scientific Technical Union of Mechanical Engineering" Industry 4.0", Pages 72-77, 2019.
- **Z. S. Almajali**, J.W. Spencer, and G.R. Jones 'Asymmetrical Fault Classifier for a Parallel Transmission Line Using Chromatic Processing' The 7th IET international conference on power electronics, machines and drives (PEMD 2014). Manchester, UK. 8 - 10 April 2014.
- **Z. S. Almajali**, J.W. Spencer, and G.R. Jones, 'Fault Locator for a Parallel Transmission Line Using Chromatic Processing' The 8th Jordanian International Electrical and Electronics Engineering Conference, (JIEEEEC 2013). Amman, Jordan. 16-18 April 2013.