Abdulaziz Almutairi

PhD in Electrical and Computer Engineering

Contact

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E-mail

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Websites

https://scholar.google.com/citations?user=xvDZIyEAAAAJ&hl=en

http://faculty.mu.edu.sa/adalmutiri

linkedin.com/in/abdulaziz-almutairi-12163a220

Skills

Creativity

Critical Thinking

Problem Solving

Teamwork Skills

Decision Making

Languages

Arabic

Excellent

English

Very Good

Dr. Abdulaziz Almutairi is an electrical and computer engineer with more than 12 years (combined) of teaching, research and industry experiences in the area of electrical engineering, renewable energy, and electric vehicles. He has managed and conducted many power planning and operation studies, generation interconnection assessments, and engineering and feasibility studies. He has strong background and extensive knowledge of Matlab, ETAP, GAMS and some other software packages. His broader interests include the following:

- System reliability, stability, security criteria, and load management
- Renewables, Storage, embedded generation, and smart grid technology.
- Electric vehicles adaption to power system: modeling, infrastructures, impacts, and policies.
- Statistical Data analytics and artificial intelligence applications in Power Systems.

Work History

2019-03 - Current

Assistant Professor

Majmaah University, Al Majma'ah, Riyadh

My responsibilities as an assistant professor include teaching a number of engineering courses, providing guidance and supervision to students, participating in different unites and committees at the department and college levels, and providing academic support to faculty members.

2014-05 - 2018-08

Graduate Teaching Assistant

University of Waterloo, Waterloo, Ontario, Canada

As a graduate teaching assistant, I was responsible for teaching tutorials and assisting faculty members with classroom instruction, exams, record keeping, and other miscellaneous projects.

2011-05 - 2014-04

Undergraduate Teaching Assistant

University of Waterloo, Waterloo, Ontario, Canada

I was responsible for assisting the course instructor with class preparation and course materials, preparing and facilitating lab session, grading homework and lab reports.

Software

Matlab

Excellent

Easyfit

Excellent

Weka

Very Good

HOMER

Excellent

MS Excel

Excellent

GAMS

Very Good

2009-04 - 2009-09

Electrical Engineer

Saudi Electricity Company, Riyadh, Riyadh

I was responsible for conducting *pre-Commissioning tests/procedures* for HV/MV substations.

Education

2014-05 - 2018-09

Ph.D.: Electrical & Computer Engineering

University of Waterloo - Waterloo, Ontario, Canada

The dissertation title is New Plug-in Electric Vehicles Charging Models Based on Demand Response Programs for System Reliability Improvement

2011-05 - 2014-04

Master of Science: Electrical & Computer Engineering

University of Waterloo - Waterloo, Ontario, Canada

The dissertation title is Evaluating Wind Power Generating Capacity Adequacy Using MCMC Time Series Model

2005-09 - 2009-03

Bachelor of Science: Electrical Engineering

Qassim University - Buraydah, Qassim, Saudi Arabia

The graduate project title is Reactive Power Management for Voltage Stability Enhancement

Teaching Experience

- **Stat 201: Statistics and probability**, *Majmaah University, Fall (2020), Winter (2021), Fall (2021).*
- **EE 483: Probabilistic reliability analysis of power systems**, *Majmaah University, Fall (2019), Winter (2019), Fall (2020), Winter (2021), Fall (2021)*
- **EE 472: Distribution system engineering**, *Majmaah University, Winter (2019), Fall (2020)*
- **EE 667: Risk assessment and assists management**, *Waterloo University, Spring (2015), Spring (2016), Spring (2018)*

Journal Articles

- **Almutairi A**. "Plug-In Electric Vehicles and their Impact on Power Generation Availability: A Real Survey-Based Analysis in Saudi Arabia." *Sustainable Cities and Society*, 2021
- Mansour A, **Almutairi A**, Alyami S, Obeidat M, Almkahles D, Sathik J. "A Unique Unified Wind Speed Approach to Decision-Making for Dispersed Locations". *Sustainability*, 2021
- Kavousi-Fard A, **Almutairi A**, Al-Sumaiti A, Farughian A, Alyami S. "An Effective Secured Peer-to-peer Energy Market Based on Blockchain Architecture for the Interconnected Microgrid and Smart Grid". *International Journal of Electrical Power & Energy Systems*, 2021.
- **Almutairi A**. and Alyami S. "Load Profile Modeling of Plug-in Electric Vehicles: Realistic and Ready-to-use Benchmark Test Data". *IEEE Access, 2021*
- Malik H. and **Almutairi A**. "Modified Fuzzy-Q-Learning (MFQL)-Based Mechanical Fault Diagnosis for Direct-Drive Wind Turbines Using Electrical Signals". *IEEE Access, 2021*
- Mahto T, Malik H, Mukherjee V, Alotaibi A, **Almutairi A.** "Renewable Generation Based Hybrid Power System Control Using Fractional Order-fuzzy Controller". *Energy Reports*. 2021
- Singh S, Fozdar M, **Almutairi A**, Alyami S, Malik H. "Strategic Bidding in the Presence of Renewable Sources for Optimizing the Profit of the Power Suppliers". *IEEE Access*, 2021
- **Almutairi A**, Sayed K, Albagami N, Abo-Khalil A, Saleeb H. **"**Multi-Port PWM DC-DC Power Converter for Renewable Energy Applications". *Energies*, 2021
- Alharbi W, **Almutairi A.** "Planning Flexibility With Non-Deferrable Loads Considering Distribution Grid Limitations". *IEEE Access*, 2021
- Malik H, Khursheed T, **Almutairi A**, Alotaibi M. "Multi-step Ahead Time-Series Wind Speed Forecasting for Smart-grid Application". *Journal of Intelligent & Fuzzy Systems*, 2020
- Al-Ameri S, **Almutairi A**, Kamarudin M. "Application of Frequency Response Analysis Technique to Detect Transformer Tap Changer Faults". *Applied Sciences*, 2020
- Malik H, Alotaibi M, **Almutairi A.** "A New Hybrid Model Combining EMD and Neural Network for Multi-step Ahead Load Forecasting". *Journal of Intelligent & Fuzzy Systems*, 2020
- Malik H, **Almutairi A**, Alotaibi M. **"**Power quality disturbance analysis using data-driven EMD-SVM hybrid approach". *Journal of Intelligent & Fuzzy Systems*, 2020

- **Almutairi A**, Abo-Khalil A, Sayed K, Albagami N. **"**MPPT for a PV grid-connected system to improve efficiency under partial shading conditions". *Sustainability*, 2020
- Malik H, Ahmad W, Alotaibi M, **Almutairi A**. "Development of Wide Area Monitoring System for Smart Grid Application". *Journal of Intelligent & Fuzzy Systems,* 2020
- **Almutairi A**, Salama M. "Assessment and Enhancement Frameworks for System Reliability Performance Using Different PEV Charging Models". *IEEE Transactions on Sustainable Energy*, 2018
- **Almutairi A**, Mohammed A, Salama M. "Use of MCMC to Incorporate a Wind Power Model for the Evaluation of Generating Capacity Adequacy". *Electric Power Systems Research*, 2016
- **Almutairi A**, Mohammed A, Salama M. "Probabilistic Generating Capacity Adequacy Evaluation: Research Roadmap". *Electric Power Systems Research*, 2015
- **Almutairi A**, Mohammed A, Salama M. "Evaluation of the Generating Capacity Adequacy of the Saudi Arabian Central Operating Area". *Electric Power Components and Systems*, 2014

Conference Papers

- **Almutairi A**, Alotaibi M, Salama M. "Goodness of Fit Statistical Analysis for Different Variables of PEV Driver Behaviour". *IEEE Canadian Conference on Electrical & Computer Engineering (CCECE).* 2018
- Alotaibi M, **Almutairi A**, Salama M. "An Approach for Managing DG Investment Proposals Considering System Constraints and DG Incentives". *IEEE Canadian Conference on Electrical & Computer Engineering (CCECE).* 2018
- **Almutairi A**, Humayd A, Salama M. "Quantifying the impact of PEV charging loads on the reliability performance of generation systems". *IEEE Power and Energy Society General Meeting (PESGM).* 2016
- Alotaibi M, **Almutairi A**, Salama M. "Effect of wind turbine parameters on optimal DG placement in power distribution systems". *IEEE Electrical Power and Energy Conference (EPEC).* 2016
- **Almutairi A**, Salama M. "Statistical evaluation study for different wind speed distribution functions using goodness of fit tests". *IEEE Electrical Power and Energy Conference (EPEC).* 2016

Awards

- Research project grant by Deputyship for Research and Innovation, Ministry of Education, Principle Investigator, project title "Microgrid technology applications for Majmaah University Campus". 2020-2021, Grant amount 92,000 *SAR*
- Research project grant by Deputyship for Research and Innovation, Ministry of Education, CO-investigator, project title "Evaluating the potential impacts of the renewable energy and electric vehicle in the KSA". 2020-2021, Grant amount 92,000 *SAR*
- Three awards for the scientific research excellence from Majmaah University, 2021, 36,000 *SAR*
- Excellence academic award for four consecutive years 2013-2016 from the Saudi Cultural Bureau in Canada.
- Engineering research excellence awards for the years of 2014 and 2016 form University of waterloo.
- Scholarship from Majmaah University to complete a MASc and PhD degree at the University of Waterloo, Waterloo, Canada, 2010

Professional Activities

- *Innovation* and entrepreneurship *committee, coordinator, College of Engineering, Majmmah University. (Sept. 2020 – present)*
- *Development* and planning *committee, coordinator, College of Engineering, Majmmah University. (Sept. 2019 – May-2021)*
- *Senior design committee, co-coordinator, Electrical department, College of Engineering, Majmmah University. (Sept. 2019 – present)*
- *Graduate and scientific research committee, member, Electrical department, College of Engineering, Majmmah University. (Sept. 2019 – present)*
- *Quality committee, member, Electrical department, College of Engineering, Majmmah University. (Sept. 2019 – present)*

Interests

- Stochastic modeling and simulation
- Renewable energy sources and electric vehicles
- Data mining and machine learning
- Risk assessment and asset management
- Power system stability and reliability
- Smart grid

- Energy management and efficiency
- Power system optimization