Dr. Abdulaziz Furreh Alanazi, Assistant Prof.

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EDUCATION

- King Fahd University of Petroleum and Minerals, Dhahran, College of Electrical Engineering (Power Engineering). **Bachelor of Science** in 2007 with 3.254 out of 4 GPA.
- Master's degree from University of Denver on March 2015 with GPA 4.00 out of 4.00.
- **PhD degree** from University of Denver on August 2019 with GPA 4.00 out of 4.00.

WORK EXPERIENCE

- Member of Student Electrical Engineering Club, KFUPM.
- The Leader in a project of Microwave Waveguide Design for measuring the electrical characteristics of local ground.
- **Training program** (8 weeks) in Saudi Electricity Company in AR'AR (AR'AR power plant).
- Electromechanical engineer (O&M) with Mobily from Aug 2007 till May 2010
- **Teaching assistant** at College of Engineering Northern Border University from May 2010 till February 2018.
- Lecturer at College of Engineering Northern Border University from February 2018 till November 2019.
- Assistant Professor at College of Engineering Northern Border University since November 2019 to present.
- Vice Dean of the Engineering Collage for Development and Community Partnership from June 2021 to present.
- **Supervisor** of the Prince Faisal bin Khalid bin Sultan Research Chair in Renewable Energy Studies and Applications (PFCRE) at Northern Border University since September 2021 to present.
- Acting head of electrical engineering department at Northern Border University since September 2022 to present.
 - <u>SPECIALIZATION(S)</u>
- Microgrids, Smart Grids, Renewable Energy, Grid of the Future, Power system planning and operation.

TEACHING COURSES

- Basic Electrical Engineering.
- Basic Electrical Circuits
- Electrical Power System
- Switchgear and Protection of Power System I

MANUSCRIPT REVIEWER

- IEEE Transactions on Power systems.
- IEEE Access.
- Journal of Modern Power Systems and Clean Energy (MPCE).
- North American Power Symposium (NAPS), 2016-2019.
- The IEEE Green Technologies Conference (IEEE Greentech), 2019.
- MDPI, Energies.

PUBLICATIOS

- 1. Mohana Alanazi, **Abdulaziz Alanazi**, Mohammad Amin Akbari, Mohamed Deriche, Zulfiqar Ali Memon, A non-simulation-based linear model for analytical reliability evaluation of radial distribution systems considering renewable DGs, Applied Energy, Volume 342, 2023, 121153, <u>https://doi.org/10.1016/j.apenergy.2023.121153</u>.
- 2. Jie Dai, Abdulkareem Abdulwahab, Haoran Wei, Abdulaziz Alanazi, Mohana Alanazi, Tarek I Alanazi, Ammar Armghan, Makatar Wae-hayee, Multi-criteria sensitivity study and optimization of an electricity/cooling/hydrogen production scheme combined with SOFC-based sequential heat recovery: Sustainability and economic analyses, Process Safety and Environmental Protection, Volume 174, 2023, Pages 169-187, https://doi.org/10.1016/j.psep.2023.03.083.
- Alghamdi, A.S.; Alanazi, M.; Alanazi, A.; Qasaymeh, Y.; Zubair, M.; Awan, A.B.; Ashiq, M.G.B. Energy Hub Optimal Scheduling and Management in the Day-Ahead Market Considering Renewable Energy Sources, CHP, Electric Vehicles, and Storage Systems Using Improved Fick's Law Algorithm. Appl. Sci. 2023, 13, 3526. <u>https://doi.org/10.3390/app13063526</u>.
- 4. Alanazi, M.; Alanazi, A.; Almadhor, A.; Rauf, H.T. An Improved Fick's Law Algorithm Based on Dynamic Lens-Imaging Learning Strategy for Planning a Hybrid Wind/Battery Energy System in Distribution Network. Mathematics 2023, 11, 1270. https://doi.org/10.3390/math11051270.
- Peixi Guo, N. Bharath Kumar, Yasser Elmasry, Abdulaziz Alanazi, Tarek I. Alanazi, Ammar Armghan, A.M. Algelany, Makatar Wae-hayee, CO2 hydrogenation for geothermal energy storage through synthetic natural gas production and byproduct of refrigeration and freshwater using solid oxide electrolyzer cell (SOEC) and methanation reactor; Techno-economic evaluation and multi-objective optimization, Journal of CO2 Utilization, Volume 69, 2023, 102395, <u>https://doi.org/10.1016/j.jcou.2023.102395</u>.
- Bian Hua, Ibrahim B. Mansir, Mohana Alanazi, Abdulaziz Alanazi, Sayed M. Eldin, Nawaf Alkhamis, Economic and energy-exergy analysis of a novel in-plane solar segmented annular thermometric generator, Thermal Science and Engineering Progress, Volume 40, 2023, 101768, <u>https://doi.org/10.1016/j.tsep.2023.101768</u>.
- Yan Cao, Yasser Elmasry, Pradeep Kumar Singh, Abdulaziz Alanazi, Ammar Armghan, Ayman A. Aly, A.M. Algelany, Adel M. El-Refaey, Makatar Wae-hayee, Thermoenvironmental multi-aspect study and optimization of cascade waste heat recovery for a high-temperature fuel cell using an efficient trigeneration process, Applied Thermal Engineering, Volume 221, 2023, 119878, https://doi.org/10.1016/j.applthermaleng.2022.119878.

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- Alanazi, M.; Alanazi, A.; Abdelaziz, A.Y.; Siano, P. Power Flow Optimization by Integrating Novel Metaheuristic Algorithms and Adopting Renewables to Improve Power System Operation. *Appl. Sci.* 2023, 13, 527. <u>https://doi.org/10.3390/app13010527</u>.
- Said, Y., Alanazi, A. AI-based solar energy forecasting for smart grid integration. *Neural Comput & Applic* 35, 8625–8634 (2023). <u>https://doi.org/10.1007/s00521-022-08160-x</u>.
- Yasser S. Abdalla, Naghmash Ali, Abdulaziz Alanazi, Mohana Alanazi, Hammad Armghan, Mohamed A. Sharaf, Anis R. Boudabbous, Ammar Armghan, Fast reaching law based integral terminal sliding mode controller for photovoltaic-fuel cell-battery-super capacitor based direct-current microgrid, *Journal of Energy Storage*, Volume 56, Part A, 2022, 105915, <u>https://doi.org/10.1016/j.est.2022.105915</u>.
- Alanazi, A.; Alanazi, M.; Abdelaziz, A.Y.; Kotb, H.; Milyani, A.H.; Azhari, A.A. Stochastic Allocation of Photovoltaic Energy Resources in Distribution Systems Considering Uncertainties Using New Improved Meta-Heuristic Algorithm. *Processes* 2022, 10, 2179. <u>https://doi.org/10.3390/pr10112179</u>.
- 12. Abdulaziz Alanazi, Mohana Alanazi, Saber Arabi Nowdeh, Almoataz Y. Abdelaziz, Adel El-Shahat, An optimal sizing framework for autonomous photovoltaic/hydrokinetic/hydrogen energy system considering cost, reliability and forced outage rate using horse herd optimization, *Energy Reports*, Volume 8, 2022, Pages 7154-7175, <u>https://doi.org/10.1016/j.egyr.2022.05.161</u>.
- 13. Zhao Yang, WU JingChun, Yasser Elmasry, Abdulaziz Alanazi, Ammar Armghan, Mohana Alanazi, A.M. Algelany, Makatar Wae-hayee, Techno-economic and multi objective optimization of zero carbon emission biomass based supercritical carbon dioxide oxy combustion system integrated with carbon dioxide liquefaction system and solid oxide electrolyzer, *Journal of CO2 Utilization*, Volume 64, 2022, 102169, <u>https://doi.org/10.1016/j.jcou.2022.102169</u>.
- 14. Mohana Alanazi, Abdulaziz Alanazi, Ahmad Almadhor & Zulfiqar Ali Memon, Multiobjective reconfiguration of unbalanced distribution networks using improved transient search optimization algorithm considering power quality and reliability metrics, *Scientific Reports*, Volume 12, 2022. <u>https://doi.org/10.1038/s41598-022-17881-x</u>.
- 15. Alanazi, A.; Alanazi, M.; Memon, Z.A.; Mosavi, A. Determining Optimal Power Flow Solutions Using New Adaptive Gaussian TLBO Method. *Appl. Sci.* 2022, 12, 7959. https://doi.org/10.3390/app12167959.
- 16. Mohana Alanazi, Abdulaziz Alanazi, Zulfiqar Ali Memon, Mako Csab, Amir Mosavi, Hill Climbing Artificial Electric Field Algorithm for Maximum Power Point Tracking of Photovoltaics, *Front. Energy Res*, Volume 10, 2022, 905310, <u>https://doi.org/10.3389/fenrg.2022.905310</u>.
- Hammad Armghan, Ming Yang, Naghmash Ali, Ammar Armghan, Abdulaziz Alanazi, Quick reaching law based global terminal sliding mode control for wind/hydrogen/battery DC microgrid, *Applied Energy*, Volume 316, 2022, 119050, <u>https://doi.org/10.1016/j.apenergy.2022.119050</u>.
- Alanazi, M.; Alanazi, A.; Almadhor, A.; Rauf, H.T. Photovoltaic Models' Parameter Extraction Using New Artificial Parameterless Optimization Algorithm. *Mathematics* 2022, 10, 4617. <u>https://doi.org/10.3390/math10234617</u>
- Alanazi, A.; Alanazi, M.; Nowdeh, S.A.; Abdelaziz, A.Y.; Abu-Siada, A. Stochastic-Metaheuristic Model for Multi-Criteria Allocation of Wind Energy Resources in Distribution Network Using Improved Equilibrium Optimization Algorithm. *Electronics* 2022, 11, 3285. https://doi.org/10.3390/electronics11203285
- Alanazi, A.; Alanazi, M. Artificial Electric Field Algorithm-Pattern Search for Many-Criteria Networks Reconfiguration Considering Power Quality and Energy Not Supplied. *Energies* 2022, 15, 5269. <u>https://doi.org/10.3390/en15145269</u>

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- 21. Alanazi, A.; Alanazi, M.; Arabi, S.; Sarker, S. A New Maximum Power Point Tracking Framework for Photovoltaic Energy Systems Based on Remora Optimization Algorithm in Partial Shading Conditions. *Appl. Sci.* 2022, 12, 3828. <u>https://doi.org/10.3390/app12083828</u>
- 22. Sawalmeh, A.; Othman, N.S.; Liu, G.; Khreishah, A.; Alenezi, A.; Alanazi, A. Power-Efficient Wireless Coverage Using Minimum Number of UAVs. *Sensors* 2022, 22, 223. Doi: 10.3390/s22010223
- 23. A. Alanazi, H. Lotfi and A. Khodaei, "Market Clearing in Microgrid-Integrated Active Distribution Networks," *Electric Power System Research*, February 2020.
- 24. A. Alanazi, and A. Khodaei, "Impact of Grid Reconfiguration in Distribution Market Clearing and Settlement," *CIGRE Grid of the Future Symposium*, Reston, VA, October 2018.
- 25. A. Alanazi, H. Lotfi and A. Khodaei, " Optimal Energy Storage Sizing and Siting in Hybrid AC/DC Microgrids," *North American Power Symposium*, Fargo, ND, September 2018.
- 26. I. Alsaidan, A. Alanazi, W. Gao, H. Wu, and A. Khodaei, "State-Of-The-Art in Microgrid-Integrated Distributed Energy Storage Sizing," *Energies*, vol. 10, no. 12, p. 1421, September 2017.
- 27. A. Alanazi, A. Khodaei, M. Chamana, and D. Kushner, "Wind Generation Curtailment Reduction based on Uncertain Forecasts," *CIGRE Grid of the Future Symposium*, Cleveland, OH, October 2017.
- 28. A. Alanazi, H. Lotfi and A. Khodaei, "Coordinated AC/DC Microgrid Optimal Scheduling," *North American Power Symposium*, Morgantown, WV, September 2017.
- 29. A. Alanazi, and A. Khodaei, "Optimal Battery Energy Storage Sizing for Reducing Wind Generation Curtailment," *IEEE PES General Meeting*, Chicago, IL, July 2017.
- 30. A. Alanazi, H. Babazadeh, and A. Khodaei, "Power Fluctuation Reduction in Wind Turbine Generator Systems," *North American Power Symposium*, Denver, CO, September 2016.
- 31. A. Alanazi, M. Alanazi, and A. Khodaei, "Managing the Microgrid Net Load Variability," *IEEE PES Transmission and Distribution Conference*, Dallas, TX, May 2016.
- 32. M. Alanazi, A. Alanazi, and A. Khodaei, "Long-Term Solar Generation Forecasting," *IEEE PES Transmission and Distribution Conference*, Dallas, TX, May 2016.

ADDITIONAL KNOWLEDGE

- How to be practical
- Contact's art with the other
- How to think
- Improving the academic work
- How to manage the time

COMPUTER EXPERIENCE

- Microsoft office Software
- MATLAB Software
- PSPICE Software
- GAMS (General Algebraic Modeling System) Software