

Name: Mohamed Mokhtar Ibrahim Ahmed

Current Title (including department and university): Assistant Professor – Electrical Power and Machines Department – Faculty of Engineering – Ain Shams University

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FIELDS OF SPECIALIZATION

Power Electronics – Microgrids – Renewable Energy – Electric Vehicles

DEGREES

PhD - Electrical Engineering – (2014 – 2018) Ain-Shams University, Cairo, Egypt

Thesis title: Control and operation of a DC microgrid.

M.Sc. Degree - Electrical Engineering – (2011–2014) Ain-Shams University, Cairo, Egypt.

Thesis title: A Direct Drive Based Wave Energy Conversion System.

B.Sc. Degree - Electrical Engineering – (2005–2010) Ain-Shams University, Cairo, Egypt

ACADEMIC AND INDUSTRIAL POSITIONS

(September 2018 – Present) Assistant Professor: Electrical power and Machines department, Ain Shams University, Cairo, Egypt.

Responsibilities:

- Undergraduate and Postgraduate Teaching
- Scientific Research
- Thesis Supervision

(September 2010 – September 2018) Teaching Assistant: : Electrical power and Machines department, Ain Shams University, Cairo, Egypt

Responsibilities:

- Undergraduate Teaching
- Scientific Research

AWARDS

- Best PhD thesis in the Faculty of Engineering , Ain shams university for the academic year 2018.

PATENTS, PUBLICATIONS

Journal papers:

1. **M. Mokhtar**, M. F. Shaaban, H. Zeineldin and E. F. El-Saadany, "Optimal Operation of Virtual Charging Systems for Plug-In Electric Vehicles," in **IEEE Systems Journal**, vol. 16, no. 3, pp. 4619-4628, Sept. 2022, doi: 10.1109/JSYST.2021.3134790.
2. **Mokhtar, Mohamed**, Nasrat, Loai S. and Attia, Mahmoud A.. "Mathematical modeling of polymer dielectric strength considering filling concentration" *International Journal of Emerging Electric Power Systems*, vol. 23, no. 2, 2022, pp. 241-248.
<https://doi.org/10.1515/ijeeps-2021-0111>
3. Samy M., **Mokhtar M.**, Saad N.H., El-Sattar A.A., " Modified hybrid PWM technique for cascaded MLI and cascaded MLI application for DTC drive," (2022) *International Journal of Power Electronics and Drive Systems*, 13 (1), pp. 47 - 57, DOI: 10.11591/ijpeds.v13.i1.pp47-57.
4. **M. Mokhtar**, M. F. Shaaban, M. H. Ismail, H. F. Sindi, and M. Rawa, "Reliability Assessment under High Penetration of EVs including V2G Strategy," **Energies**, vol. 15, no. 4, p. 1585, Feb. 2022, doi: 10.3390/en15041585.
5. **M. Mokhtar**, M. I. Marei, M. A. Sameh, and M. A. Attia, "An Adaptive Load Frequency Control for Power Systems with Renewable Energy Sources," **Energies**, vol. 15, no. 2, p. 573, Jan. 2022, doi: 10.3390/en15020573.
6. **Mohamed Mokhtar**, Mostafa I. Marei, Mahmoud A. Attia, "Hybrid SCA and adaptive controller to enhance the performance of grid-connected PV system," **Ain Shams Engineering Journal**, Volume 12, Issue 4, December 2021, Pages 3775-3781, ISSN 2090-4479, <https://doi.org/10.1016/j.asej.2021.03.019>.
7. Abbas M.K., **Mokhtar M.**, Marei M.I., El-Sattar A.A., " Adaptive notch filter based WECS for unbalance mitigation," (2021) *Renewable Energy and Power Quality Journal*, 19, art. no. 295, pp. 362 - 367, DOI: 10.24084/repqj19.295.
8. Walid Hatahet, Mostafa I. Marei, **Mohamed Mokhtar**, "Adaptive controllers for grid-connected DC microgrids," **International Journal of Electrical Power & Energy Systems**, Volume 130, 2021. DOI: 10.1016/j.ijepes.2021.106917.
9. M. M. Elmeligy, M. F. Shaaban, A. Azab, M. A. Azzouz, and **M. Mokhtar**, "A Mobile Energy Storage Unit Serving Multiple EV Charging Stations," **Energies**, vol. 14, no. 10, p. 2969, May 2021, doi: 10.3390/en14102969.
10. A. Ragab, M. I. Marei, **M. Mokhtar**, and A. Abdelsattar, "Design and performance evaluation of a PV interface system based on inductive power transfer," *International Journal of Power Electronics and Drive Systems (IJPEDS)*, vol. 12, no. 1, p. 364, Mar. 2021, DOI 10.11591/ijpeds.v12.i1.pp364-373.
11. Attia, M.A., **Mokhtar, M.**, Abdelaziz, A.Y., Sasis, S., Kumar, S., Saket, R.K. (2021). Optimal Controller Design for Automatic Generation Control Under Renewable Energy Disturbance. In: Reddy, M.J.B., Mohanta, D.K., Kumar, D., Ghosh, D. (eds) *Advances in Smart Grid Automation and Industry 4.0. Lecture Notes in Electrical Engineering*, vol 693. Springer, Singapore. https://doi.org/10.1007/978-981-15-7675-1_12.

12. **M. Mokhtar**, M. I. Marei and A. A. El-Sattar, "An Adaptive Droop Control Scheme for DC Microgrids Integrating Sliding Mode Voltage and Current Controlled Boost Converters," in *IEEE Transactions on Smart Grid*, vol. 10, no. 2, pp. 1685-1693, March 2019, doi: 10.1109/TSG.2017.2776281.
13. **M. Mokhtar**, M. I. Marei, and A. A. El-Sattar, "Improved Current Sharing Techniques for DC Microgrids," *Electric Power Components and Systems*, Vol. 46, No. 7, 2018, pp. 757-767, DOI: 10.1080/15325008.2018.1512176
14. Mostafa I. Marei, **Mohamed Mokhtar**, Ahmed A. EL-Sattar, "MPPT Strategy Based On Speed Control for AWS-Based Wave Energy Conversion System", *Renewable Energy an International Journal*, Elsevier, vol. 83, 2015. DOI: 10.1016/j.renene.2015.04.039

Conference publications:

1. A. A. Hady, M. Mokhtar, M. A. Attia and M. A. Sameh, "Optimized Strategy for Enhancing DC-Microgrid's Performance using Local Unimodal Sampling (LUS) optimization algorithm," *2022 23rd International Middle East Power Systems Conference (MEPCON)*, Cairo, Egypt, 2022, pp. 1-5, doi: 10.1109/MEPCON55441.2022.10021783.
2. A. Ali, M. Mokhtar and M. F. Shaaban, "Theft Cyberattacks Detection in Smart Grids Based on Machine Learning," *2022 5th International Conference on Communications, Signal Processing, and their Applications (ICCSPA)*, Cairo, Egypt, 2022, pp. 1-4, doi: 10.1109/ICCSPA55860.2022.10019036.
3. M. Mokhtar and M. F. Shaaban, "A New ANN-Based Cleaning Approach for Photovoltaic Solar Panels," *2022 9th International Conference on Electrical and Electronics Engineering (ICEEE)*, Alanya, Turkey, 2022, pp. 260-263, doi: 10.1109/ICEEE55327.2022.9772579.
4. A. A. Shalaby, M. F. Shaaban, M. Mokhtar, H. H. Zeineldin and E. F. El-Saadany, "Optimal Day-ahead Operation for a PV-based Battery Swapping Station for Electric Vehicles," *2021 6th International Symposium on Environment-Friendly Energies and Applications (EFEA)*, Sofia, Bulgaria, 2021, pp. 1-8, doi: 10.1109/EFEA49713.2021.9406274.
5. Z. H. Alnahhal, M. F. Shaaban, M. Hamouda and M. Mokhtar, "Optimal Operation of Power System Integrated with Reverse Osmosis Water Desalination," *2021 6th International Symposium on Environment-Friendly Energies and Applications (EFEA)*, Sofia, Bulgaria, 2021, pp. 1-5, doi: 10.1109/EFEA49713.2021.9406237.
6. S. Mohamed, M. Mokhtar and M. I. Marei, "A Control Strategy for Hybrid Islanded Microgrid," *2019 21st International Middle East Power Systems Conference (MEPCON)*, Cairo, Egypt, 2019, pp. 301-306, doi: 10.1109/MEPCON47431.2019.9007926.
7. W. Hatahet, M. Mokhtar and M. I. Marei, "Performance Enhancing of Grid-Connected DC Microgrid," *2019 IEEE Conference on Power Electronics and Renewable Energy (CPERE)*, Aswan, Egypt, 2019, pp. 361-366, doi: 10.1109/CPERE45374.2019.8980214.
8. M. Mokhtar, M. I. Marei and A. A. El-Sattar, "A control scheme for islanded and grid-connected DC microgrids," *2017 Nineteenth International Middle East Power Systems Conference (MEPCON)*, Cairo, 2017, pp. 176-180, doi: 10.1109/MEPCON.2017.8301181.