

# AHMED A. SHAIER

## PROFILE

**Ahmed A. Shaier** is currently a full-time Assistant Professor in the Electrical Power and Machines Department, Faculty of Engineering, Zagazig University, Egypt. He received his B.Sc. (2016), M.Sc. (2020), and Ph.D. (2024) from the same department. His research focus on electric vehicles (EVs), power electronics, electrical machines, renewable energy, photovoltaic water pumping systems as well as wireless power transfer (WPT). He is actively involved in cutting-edge research and has contributed to several publications in his field, focusing on renewable energy technologies, WPT, and advancements in electrical engineering.

## PERSONAL INFORMATION

**Full Name:** Ahmed Abd El-Rahman Morsi Goma Shaier  
**Place/Date of Birth:** Faqous, Al-Sharqia, Egypt / 1 November 1992  
**Nationality:** Egyptian  
**Marital Status:** Married (3 Children)  
**Languages:** Arabic and English  
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## EDUCATION

### Ph.D in Electrical Power Systems & Machines Engineering

Faculty of Engineering, Zagazig University | Zagazig, Al-Sharqia, Egypt Jan 2021 – Apr 2024

Thesis: “Advanced Design of Inductive Charging System for Stationary and In-Motion Electric Vehicles”

### M.Sc in Electrical Power Systems & Machines Engineering

Faculty of Engineering, Zagazig University | Zagazig, Al-Sharqia, Egypt Sep 2016 – Dec 2020

Thesis: “Advanced Design of Wireless Power Transfer System for Electric Vehicle Charging”

### B.Sc in Electrical Power Systems & Machines Engineering

Faculty of Engineering, Zagazig University | Zagazig, Al-Sharqia, Egypt Sep 2011 – May 2016

Graduation Project: “Performance Assessment of the Photovoltaic Water Pumping System”

Grade: Excellent with Honours

## WORK EXPERIENCE

### Assistant Professor

Faculty of Engineering, Zagazig University | Zagazig, Al-Sharqia, Egypt May 2024 – Present

### Assistant Lecturer

Faculty of Engineering, Zagazig University | Zagazig, Al-Sharqia, Egypt Jan 2021 – Apr 2024

### Teaching Assistant

Faculty of Engineering, Zagazig University | Zagazig, Al-Sharqia, Egypt Sep 2016 – Des 2020

## TEACHING EXPERIENCE

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Over the years, I have gained extensive teaching experience across a wide range of electrical engineering courses, including Electric Circuits (1) and (2), Electric Fields (1) and (2), Electrical Instrumentations and Tests, Power Electronics (1), and (2), Electric Machines (1), (2), and (3), Design of Electrical Machines, Power System Quality, Electric Power Engineering (1), (2), and (3), Utilization of Electrical Energy, Electrical Distribution Systems, Renewable Energy Sources, Control and Dynamics of Electric Power Systems (1) and (2), and Electrical Power and Machines Tests (1) and (2). This diverse teaching experience reflects comprehensive expertise in the basic areas of electrical engineering.

## PUBLICATIONS

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### Journal Papers:

- [1] H. M. Bawayan, M. A. Enany, M. M. Elymany, A. A. Shaier, and M. M. Ahmed, "Control strategies of hybrid RESs for off-grid water pumping technologies: An overview," *Sci. Afr.*, vol. 29, p. e02856, Sep. 2025, doi: [10.1016/j.sciaf.2025.e02856](https://doi.org/10.1016/j.sciaf.2025.e02856).
- [2] M. M. Elymany, A. A. S. Mohamed, A. A. Shaier, M. A. Enany, H. Metwally, and S. I. Selem, "Safety assessment of electromagnetic fields of different transmitters and receivers for EVs static charging," *Sci. Rep.*, vol. 15, no. 1, p. 15193, Apr. 2025, doi: [10.1038/s41598-025-97881-9](https://doi.org/10.1038/s41598-025-97881-9).
- [3] A. A. Shaier, A. Flah, H. kraiem, M. A. Enany, and M. M. Elymany, "Novel technique for precise derating torque of induction motors using ANFIS," *Sci. Rep.*, vol. 15, no. 1, p. 8550, Mar. 2025, doi: [10.1038/s41598-025-92821-z](https://doi.org/10.1038/s41598-025-92821-z).
- [4] M. M. Elymany, N. A. Elsonbaty, A. FLah, L. Prokop, M. A. Enany, and A. A. Shaier, "Advanced methodology for maximum torque point tracking of hybrid excitation PMSM for EVs," *Sci. Rep.*, vol. 15, no. 1, p. 7707, Mar. 2025, doi: [10.1038/s41598-025-92466-y](https://doi.org/10.1038/s41598-025-92466-y).
- [5] M. M. Ahmed, H. M. Bawayan, M. A. Enany, M. M. Elymany, and A. A. Shaier, "Modern advancements of energy storage systems integrated with hybrid renewable energy sources for water pumping application," *Eng. Sci. Technol. Int. J.*, vol. 62, p. 101967, Feb. 2025, doi: [10.1016/j.jestch.2025.101967](https://doi.org/10.1016/j.jestch.2025.101967).
- [6] A. A. Shaier, M. M. Elymany, M. A. Enany, and N. A. Elsonbaty, "Multi-objective optimization and algorithmic evaluation for EMS in a HRES integrating PV, wind, and backup storage," *Sci. Rep.*, vol. 15, no. 1, p. 1147, Jan. 2025, doi: [10.1038/s41598-024-84227-0](https://doi.org/10.1038/s41598-024-84227-0).
- [7] A. A. Shaier, M. M. Elymany, M. A. Enany, N. A. Elsonbaty, M. M. Tharwat, and M. M. Ahmed, "An efficient and resilient energy management strategy for hybrid microgrids inspired by the honey badger's behavior," *Results Eng.*, vol. 24, p. 103161, Dec. 2024, doi: [10.1016/j.rineng.2024.103161](https://doi.org/10.1016/j.rineng.2024.103161).
- [8] M. M. Elymany, M. A. Enany, H. Metwally, and A. A. Shaier, "Enhanced operation of PVWPS based on advanced soft computing optimization techniques," *Sci. Rep.*, vol. 14, no. 1, Art. no. 1, Nov. 2024, doi: [10.1038/s41598-024-80894-1](https://doi.org/10.1038/s41598-024-80894-1).
- [9] M. M. Elymany, A. A. S. Mohamed, A. A. Shaier, M. A. Enany, H. Metwally, and S. I. Selem, "Misalignment analysis of WPT level 3/Z2-class of CirPT with DDPR and CirPR for EVs stationary charging," *Sci. Rep.*, vol. 14, no. 1, p. 26766, Nov. 2024, doi: [10.1038/s41598-024-76381-2](https://doi.org/10.1038/s41598-024-76381-2).
- [10] M. M. Ahmed, M. A. Enany, A. A. Shaier, H. M. Bawayan and S. A. Hussien, "An Extensive Overview of Inductive Charging Technologies for Stationary and In-Motion Electric Vehicles," in *IEEE Access*, vol. 12, pp. 69875-69894, 2024, doi: [10.1109/ACCESS.2024.3402553](https://doi.org/10.1109/ACCESS.2024.3402553).

- [11] Shaier, A.A., Mohamed, A.A.S., Metwally, H. et al. A new hollow solenoid receiver compatible with the global double-D transmitter for EV inductive charging. Sci Rep 13, 11925 (2023). <https://doi.org/10.1038/s41598-023-38645-1>.
- [12] Shaier, A.A., Mohamed, A.A.S., Metwally, H. et al. New design of high-power in-motion inductive charger for low power pulsation. Sci Rep 13, 17838 (2023). <https://doi.org/10.1038/s41598-023-44949-z>.
- [13] Mohamed, A.A.S., Shaier, A.A., Metwally, H., Selem, S.I.: Wireless charging technologies for electric vehicles: Inductive, capacitive, and magnetic gear. IET Power Electron. 00, 1–27 (2023). <https://doi.org/10.1049/pel2.12624>.
- [14] Wael S. Hassanin, Mohamed A. Enany, Ahmed A. Shaier, Marwa M. Ahmed, Performance analysis of rectangular and double-D transmitters with various receivers for electric vehicle static charging, Alexandria Engineering Journal, Volume 78, 2023, Pages 438-452, ISSN 1110-0168, <https://doi.org/10.1016/j.aej.2023.07.064>.
- [15] A. A. S. Mohamed, A. A. Shaier, H. Metwally, and S. I. Selem, “An Overview of Dynamic Inductive Charging for Electric Vehicles,” Energies, vol. 15, no. 15, 2022, <https://doi.org/10.3390/en15155613>.
- [16] Ahmed A.S. Mohamed, Ahmed A. Shaier, Hamid Metwally, Sameh I. Selem, Interoperability of the universal WPT3 transmitter with different receivers for electric vehicle inductive charger, eTransportation, Volume 6, 2020, 100084, ISSN 2590-1168, <https://doi.org/10.1016/j.etrans.2020.100084>.
- [17] Ahmed A.S. Mohamed, Ahmed A. Shaier, Hamid Metwally, Sameh I. Selem, A comprehensive overview of inductive pad in electric vehicles stationary charging, Applied Energy, Volume 262, 2020, 114584, ISSN 0306-2619, <https://doi.org/10.1016/j.apenergy.2020.114584>.

#### **Book Chapters:**

- [1] A. A. S. Mohamed, A. A. Shaier, and M. Abdallah, “Wireless charging for electric vehicles,” in Power Electronic Converters and Systems. Volume 2: Applications, vol. 2, IET Digital Library, 2024, pp. 321–354. [doi: 10.1049/PBPO241G\\_ch24](https://doi.org/10.1049/PBPO241G_ch24).
- [2] A. A. Mohamed and A. A. Shaier, “Shielding Techniques of IPT System for Electric Vehicles’ Stationary Charging,” in Electric Vehicle Integration in a Smart Microgrid Environment, CRC Press, 2021, pp. 279–293. [Online]. Available: <https://www.taylorfrancis.com/chapters/edit/10.1201/9780367423926-12/shielding-techniques-ipt-system-electric-vehicles-stationary-charging-ahmed-mohamed-ahmed-shaier>
- [3] A. A. S. Mohamed, A. A. Shaier, and H. Metwally, “An Overview of Inductive Power Transfer Technology for Static and Dynamic EV Battery Charging,” in Transportation Electrification, 2022, pp. 73–104, <https://doi.org/10.1002/9781119812357.ch4>.

#### **RESEARCHER PROFILES**

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- MAIN PAGE: <http://www.staffdata.zu.edu.eg/ar/ShowData/25337>
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- Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57214804122>

#### **SKILLS**

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- **Computer Skills:** Microsoft Office (Word, Excel, PowerPoint, and Access), Ansys Maxwell Software, AutoCAD, DIALux, ETAP, Ecodial, MATLAB, and SIMULINK.

- **Personal Skills:** Teamwork, Self-study, Leadership, Volunteer, Communication Skills, Ambitious, Time Management, Fast Learning, Strategic Thinking, Creativity, Problem Solving, and Team Leadership.
- **Research Interests:** Electrical Machines, Wireless Power Transfer, Electric Vehicles, Renewable Energy Technologies, and Power Electronics.
- **Language:** Native in Arabic and Excellent in English.

## REFERENCES

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References are available upon request. Please feel free to contact me for further information.