

# Nahla E. Zakzouk

## PERSONAL INFORMATION

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**Full name:** Nahla EzzELdin Mohamed Abdelmoneim Zakzouk

**Date of Birth:** 15/7/1984

**Nationality:** Egyptian

**Marital Status:** Married

**Present Occupation:** Lecturer in the electrical and control engineering department, college of engineering and technology, Arab Academy for Science and Technology, Alexandria, Egypt.

**Mobile:** +201006639485

**Languages:** Mother tongue language; Arabic

Fluent in English (Reading, writing, speaking and listening)

French intermediate reading and speaking

## EDUCATION

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2011 – 2015 Department of Electronic and Electrical Engineering, Faculty of Engineering  
University of Strathclyde.  
**Ph. D. Electronic and Electrical Engineering**

2007 – 2009 Department of Electrical and Control Engineering, College of Engineering and Tech.,  
Arab Academy for Science and Technology.  
**M. Sc. Electrical and Control Engineering**

2002 – 2007 Department of Electrical and Control Engineering, College of Engineering and Tech.,  
Arab Academy for Science and Technology.  
**B. Sc. Electrical and Control Engineering**

## PROFESSIONAL EXPERIENCE

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Nov. 2019 – Till Now Department of Electrical and Control Engineering, College of Eng. and  
Tech., Arab Academy for Science, Technology and Maritime Transport.  
**Professor of Renewable Energy Systems.**

Nov. 2019 – Nov. 2023 Department of Electrical and Control Engineering, College of Eng. and  
Tech., Arab Academy for Science, Technology and Maritime Transport.  
**Associate Professor**

Sept. 2015 – Nov. 2019 Department of Electrical and Control Engineering, College of Eng. and  
Tech., Arab Academy for Science, Technology and Maritime Transport.  
**Assistant Professor.**

Sept. 2009 – Sept. 2015 Department of Electrical and Control Engineering, College of Eng. and  
Tech., Arab Academy for Science, Technology and Maritime Transport.  
**Assistant Lecturer.**

Sept. 2007 – Sept. 2009 Department of Electrical and Control Engineering, College of Eng. and  
Tech., Arab Academy for Science, Technology and Maritime Transport.  
**Teaching Assistant.**

## AWARDS, SCHOLARSHIPS & ACADEMIC RECOGNITION

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Awarded " Best Presented Paper" in IECON 2013, Vienna, Austria

Awarded " Best Presented Paper" in SEGE 2023, Oshawa, Canada

## TECHNICAL EXPERIENCE

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- Delivering academic courses since 2007.
- Development of course material for undergraduate courses.
- Updating and maintaining the quality assurance, and administration work within the department.
- Academic advising for undergraduate students.

## PROFESSIONAL DEVELOPMENT

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- Presentation Skills session, 26-27 November, 2014, AASTMT, Alexandria, Egypt
- Organizing Scientific Conferences, 25-26 July, 2016, AASTMT, Alexandria, Egypt
- E-Learning, 28-29 August, 2017, AASTMT, Alexandria, Egypt.
- Problem Solving and Decision Making, 28 Feb. - 1March, 2018, AASTMT, Alexandria, Egypt.
- Dealing with Special Needs Students, 24-25 March, AASTMT, Alexandria, Egypt.
- Quality Standards in the Educational Process, 24-25 June, 2020, AASTMT, Alexandria, Egypt.
- Scientific Research Writing, 28-29 October, 2021, AASTMT, Alexandria, Egypt.
- The Use of Technology in Education, 28-29 November, 2021, AASTMT, Alexandria, Egypt.
- Challenging Projects Preparation for Scientific Research Funding, 5-6 June, 2022, AASTMT, Alexandria, Egypt.

## PUBLICATIONS

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- **Zakzouk, N.E.** Continuous input current buck DC/DC converter for small-size wind energy systems featuring current sensorless MPPT control. *Scientific Reports* 2024, 14, 380, pp. 1-24.
- Ibrahim, R.A.; **Zakzouk, N.E.** Bi-Functional Non-Superconducting Saturated-Core Inductor for Single-Stage Grid-Tied PV Systems: Filter and Fault Current Limiter. *Energies* 2023, 16, 4206.
- O. Attallah, R.A. Ibrahim, **N.E. Zakzouk**, "CAD system for inter-turn fault diagnosis of offshore wind turbines via multi-CNNs & feature selection", *Renewable Energy*, 2023, 203, pp. 870-880.
- O Attallah, RA Ibrahim, **NE Zakzouk**, "Fault Diagnosis for Induction Generator-based Wind Turbine using Ensemble Deep Learning Techniques", 2022, *Energy Reports*, 8, pp. 12787-12798
- A.K. Khamis, **N.E. Zakzouk**, A. Abdelsalam, "Generalized Cost-effective Converter for Solar Street Lighting featuring Averaged State-space Model-based Sensorless MPPT," *Computers and Electrical Engineering*, 2022, 101, 108004.
- AM Abdelhamid, NE Zakzouk, S El Safty, "A Multi-Agent Approach for Self-Healing and RES-Penetration in Smart Distribution Networks", *Mathematics*, 2022, vol. 10, no. 13, 2275
- O. Hassan, **N.E. Zakzouk**, A. Abdelsalam, "Novel Photovoltaic Empirical Mathematical Model Based on Function Representation of Captured Figures from Commercial Panels Datasheet," *Mathematics* 2022, 10 (3), 476
- R.A. Ibrahim, **N.E. Zakzouk**, "A PMSG Wind Energy System Featuring Low-Voltage Ride-through via Mode-Shift Control. *Appl. Sci.* 2022, 12, 964.
- R. M. Ahmed, **N. E. Zakzouk**, M. I. Abdelkader, A. K. Abdelsalam Modified Partial-Shading-Tolerant Multi-Input-Single-Output Photovoltaic String Converter, *IEEE Access*, 2021, vol. 9, pp. 30663-30676
- **N. E. Zakzouk**, R. A. Lotfi, "Power Flow Control of a Hybrid Battery/Supercapacitor Standalone PV System under Irradiance and Load Variations", in *Proc. 10th IEEE International Conference on Power and Energy Systems (ICPES)*, 2020, pp. 469-474
- **N. E. Zakzouk**, A. K. Abdelsalam, Ahmed A. Helal and B. W. Williams, " High Performance Single-Phase Single-Stage Grid-Tied PV Current Source Inverter Using Cascaded Harmonic Compensators," *Energies*, vol. 13, no. 2, 2020, pp. 380 – 409.
- Z. Abousserhane, A. Abbou, L. Id-Khajine, **N. E. Zakzouk**, "Power flow control of PV system featuring on-grid and off-grid modes", in *Proc. 7th International Renewable and Sustainable Energy Conference (IRSEC)*, 2019, pp. 1-7.
- G.A. ElBoudi, **N. E. Zakzouk**, A. K. Abdelsalam, "Low Cost High Performance Non-Electrolytic-Capacitor Based LED Driver for Street Light Applications", in *Proc. 20th International Symposium on Power Electronics*, 2019, pp. 1-6.
- R. Ahmed, **N. E. Zakzouk**, "A single-inductor MISO converter with unified decoupled MPPT algorithm for PV systems undergoing shading conditions", in *Proc. 2019 IEEE International Conference on Environment and Electrical Engineering and 2019 IEEE Industrial and Commercial Power Systems Europe (EEEIC / I&CPS Europe)*, 2019.
- **N. E. Zakzouk**, R. Ahmed "Transformerless Single-phase Grid-tied Micro Wind Turbine System Featuring Low Component-count", in *Proc. 2019 IEEE International Conference on Environment and Electrical Engineering and 2019 IEEE Industrial and Commercial Power Systems Europe (EEEIC / I&CPS Europe)*, 2019.

- A. K. khamis, **N. E. Zakzouk**, A. K. Abdelsalam, and A. A. Lotfy, "Decoupled Control Strategy for Electric Springs: Dual Functionality Feature," vol. 7, no. 1, 2019, pp. 57725 – 57740.
- **N. E. Zakzouk**, A. K. khamis, A. K. Abdelsalam, and B. W. Williams, " Continuous-Input Continuous-Output Current Buck-Boost DC/DC Converters for Renewable Energy Applications: Modelling and Performance Assessment" *Energies*, vol. 12, no. 11, 2019, pp. 2208 – 2235.
- **N. E. Zakzouk**, "Mitigation of Oscillating Power Effect on PV Power and Grid Current in Single-phase Single-stage PV Grid-tied Systems", in Proc. 7th International Conference on Renewable Energy Research and Applications (ICRERA2018), 2018, pp.438-442.
- **N. E. Zakzouk**, A. El Dyasty, A. Ahmed, S. M. El Safty, "Power flow control of a standalone photovoltaic-fuel cell-battery hybrid system" in Proc. 7th International Conference on Renewable Energy Research and Applications (ICRERA2018), 2018.
- **N.E. Zakzouk**, A.K. Abdelsalam, A.A. Helal and B. W. Williams, " PV Single-Phase Grid-Connected Converter: DC-Link Voltage Sensorless Prospective", *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 5, no. 1, 2017, pp. 526-546.
- A. K. Hassan; **N. E. Zakzouk**; A. K. Abdelsalam; A. A. Lotfy, "Electric Spring enhanced decoupled dual function operation: Bus voltage controller and renewable energy grid integration", in Proc. IET International Conference on Power Electronics, Machines and Drives (PEMD 2016), 2016, pp. 1-8.
- **N. E. Zakzouk** ; M. A. Elsharty ; A. K. Abdelsalam ; A. A. Helal, and Barry W. Williams," *IET Renewable Power Generation*, vol.10 , no. 4, 2016, pp. 561-574
- **N.E. Zakzouk**, A.K. Abdelsalam, A.A. Helal and B. W. Williams, "DC-link Voltage Sensorless Control Technique for Single-phase Two-stage Photovoltaic Grid-connected System", in Proc. IEEE International Energy Conference (ENERGYCON), 2014, pp. 58 -64.
- **N.E. Zakzouk**, A.K. Abdelsalam, A.A. Helal and B. W. Williams, "Modified Variable step Incremental Conductance Maximum Power Point Tracking Technique for Photovoltaic Systems", in Proc. IEEE Industrial Electronics Society Conference, IECON 2013, pp. 1741 – 1748.
- A. Abdelsalam, Ahmed Helal, **Nahla Zakzouk** and B.W.Williams, "PV Maximum Power Point Tracking under Rapidly Changing Irradiance: Control Scheme Investigation " in Proc. International Renewable Energy Congress (IREC), 2012.
- Ahmed A. Helal, **Nahla E. Zakzouk**, and Yasser G. Desouky, "Fuzzy Logic Controlled Shunt Active Power Filter for Three-phase Four-wire Systems with Balanced and Unbalanced Loads", *International Journal of Electrical, Computer, Energetic, Electronic and Communication Engineering*, vol.3, no.10, 2009, pp. 1835-1840.