

OMAR SAMIR

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Experience

Assistant Lecturer	09/2023 to Current
Assuit University	Assuit, Egypt
Demonstrator	05/2020 to 08/2023
Assuit University	Assuit, Egypt

Education

Master of Science: Electrical Power Engineering	2023
Assuit University	Assiut, AST

- Excellent (GPA 3.9)
- Thesis title: "***Impact of Irrigation Load and Integration with PV Electricity Generation on Optimal Operation of Karot Distribution Line***"
- Thesis summary: The thesis investigated the optimal performance of a real radial distribution system in Egypt (Karot distribution line) feeding several water-pumping loads for irrigation purpose. The thesis focused on improving the voltage profile of the investigated distribution system and optimized the steady-state operation of both the electrical and the irrigation systems. The investigated distribution system was experienced to a 15% voltage sag for 4.5 seconds at the simultaneous start-up of the irrigation-motors, which was mitigated using management of the motors' operation and connection of series and/or shunt capacitors to meet the reactive-power demand. The feasibility of connecting series and/or shunt capacitors was validated via an experimental laboratory-scale model. Further improvement of the electrical system's steady-state performance was pursued by utilizing PV electricity generation, energy demand side management and modification of the irrigation schedule and irrigation technique. The thesis managed to decrease (i) the system seasonal cost, (ii) the total active-power loss and (iii) the water quantity used for irrigation while simultaneously meeting the crop water demand.

Bachelor of Science: Electrical Engineering	2019
Assuit University	Assiut, AST

- Excellent with Honors (89.8%)
- Excellent grading at graduation project entitled "***Design of Generation and Distribution Network for Nassir City using Renewable Energy Resources***"
- Graduation project summary: The project aimed at determining the optimal sizing and configuration for a hybrid renewable energy generation station to electrify the remote city of Nassir in Assuit, Egypt by employing various optimization techniques to fulfill the electrical load needs of the city. Furthermore, the project also aimed at designing the distribution system starting from the medium voltage down to the design of sample buildings in the city including lighting, power and AC calculations.

Awards/Prizes

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- "Best Scientific Paper in Electrical Engineering" award at Assuit University in 2023.
 - Egyptian Engineering Syndicate in Assiut honoring for graduation with Excellent degree. [Certificate](#)
 - Prof. Esmat Hasan award for placing first in "Electrical Power" course. [Certificate](#)
 - Prof. El-Sayed Mohamed award for placing first in "Electrical Power" Course. [Certificate](#)
 - Best paper award for ISIITA 2021 conference in South Korea. [Certificate](#)
 - Appreciation award for organizing a "Transmission Systems" session in MEPCON 2021. [Certificate](#)
 - Appreciation award for organizing a "Electric Machines" session in MEPCON 2021. [Certificate](#)
 - Award for presenting a paper in MEPCON 2021 conference. [Certificate](#)

Academic Publications

- [1] O. Samir, M. Osama, A. Elsayed, M. Nayel, "IoT System Design for Irrigation Distribution Grid Power Quality Improvement," *International Symposium on Innovation in Information Technology and Application (ISIITA)*, Yeosu, South Korea, 18-20 February 2021, pp. 1-13.
- [2] M. Abdel-Salam, M. Nayel, O. Samir, A. Elnozahy, "Performance of Karot Distribution Line as Influenced by Management of Water Pumping Loads," *The 22nd International Middle East Power Systems Conference (MEPCON)*, Assiut, Egypt, 14-16 December 2021, pp. 593-598.
- [3] O. Samir, M. Abdel-Salam, M. Nayel and A. Elnozahy, "Effect of Series/Shunt Capacitors on the Performance of a Distribution Network with Motor Driven Loads," *Electric Power Systems Research*, vol. 213, 108745, 2022.
- [4] O. Samir, M. Abdel-Salam, M. Nayel and A. Elnozahy, "Simultaneous Optimization of Cost, Active Power Loss and Water Quantity in Irrigation: A Techno-Economic Study Incorporating PV Panels and Demand Side Management," *Electrical Engineering*, 2024, <https://doi.org/10.1007/s00202-023-02175-w>.
- [5] O. Samir, A. Farah, A. M. Abdelshafy and A. Elnozahy, "Optimal Orientation and Layout for PV System of Electric Vehicle Charging Station at Assiut University," *The 24th International Middle East Power System Conference (MEPCON)*, Mansoura, Egypt, 19-21 December 2023 (**Accepted for publication**).
- [6] O. Samir, A. Farah, A. M. Abdelshafy and A. Elnozahy, "Innovative Energy Management Strategy of Battery and Fuel Cell Buses Charging Station," *Energy Conversion and Management* (**Submitted**).

Academic Experiences

PROJECT RESEARCH ASSISTANT

06/2023 to Current

Assiut University, Assiut, Egypt.

- Participant in the project entitled "Optimal Design of a Renewable Charging Station for Electrical Buses in Assiut University".
- Was responsible for testing PV panels and designing the PV layout for the project location.
- Was responsible for designing the energy management scheduling for the charging station.
- Active participant in the designing of the power electronics components for the charging station.
- Active participant in the development of the IoT system for the station.

COMMITTEE MEMBER

MEPCON 2022, Assiut, Egypt

- Part of the Organization committee of the 22nd International Middle East Power Systems Conference (MEPCON).
- Part of the Technical committee of the 22nd International Middle East Power Systems Conference (MEPCON).
- Was responsible for first screening of the submitted manuscripts.
- Was a session organizer in two sessions.
- Was responsible for finalizing the Conference proceedings.

COMMITTEE MEMBER

Assiut University, Assiut, Egypt

- Part of the Organization committee for the quality assurance offered from ABET
- Was responsible for documentation and organization of undergraduate students' data in electric machines theory course.
- Was responsible for determining CLOs and SOs in electric machines theory course.

TEACHING EXPERIENCE

- Electric Power
- Power Electronics
- Electric Circuits Theory
- Electric Machines Theory
- Power System Distribution
- Power Electronics Laboratory
- Electric Power Laboratory
- Digital Circuits

SOFTWARE EXPERIENCE

- MATLAB
- ETAP
- AUTOCAD
- DIALUX
- DIALUX evo

Language

- Arabic: First Language
- English: Scored 111 in TOEFL iBT test 10/2023 (R: 29, L: 30, S:23, W:29) [Certificate](#)

Professional Affiliations

Prof. Dr. Mazen Mohamed Shafik Abdel-Salam

- Professor – Faculty of Engineering – Assuit University – Egypt
- Fellow of IEEE (USA), IET (UK), IOP (UK), AvH (Germany) and JSPS (Japan)
- mazen@aun.edu.eg

Prof. Dr. Mohamed Abdel-Azim Ibrahim Nayel

- Professor – Faculty of Engineering – Assuit University – Egypt
- Head of Electrical Department – Faculty of Engineering – Assuit University
- mohamed.nayel@aun.edu.eg

Dr. Ahmed Elnaem Elnozahy Elsayed

- Associate Professor – Faculty of Engineering – Assuit University – Egypt
- ahmed.alnozahy@aun.edu.eg