

Curriculum Vitae

Personal Data

Name Ahmed Hassan Hamed Okilly

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Current Job Postdoc Researcher, KoreaTECH university, Korea.
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Education

- **PhD** in Electrical Engineering, from Electrical & Electronics and Communication Engineering Department, Koreatech University, Cheonan, Republic of Korea. The title of thesis is **“Optimal Design and Implementation of a High-Power Density Two-Stage AC-DC Power Supply in Telecom Power Server Applications”**.
- **M. Sc.** in Electrical Engineering, Faculty of Engineering, Assiut University, Assiut, Egypt. The title of thesis is **“High Voltage Direct Current Transmission Systems for Enhancing Power System Performance”**.
- **B.Sc.** in Electrical Engineering, Faculty of Engineering, Assiut University, Assiut, Egypt, with cumulative average grade **very good** with honor degree (**84.33%**). Also, The Graduation project: **Electrification Design and Power System Distribution of anew City with a Graduation project grade: Excellent.**

Employment History

- **Postdoc Researcher** at the Electrical & Electronics and Communication Engineering Department, Koreatech University, Cheonan, Republic of Korea from Aug., 2022 till Now.

- **Assistant lecturer** at the Electrical Engineering Department, Assiut University, Assiut, Egypt from Aug., 2017 till Now.
- **Demonstrator** at the Electrical Engineering Department, Assiut University, Assiut, Egypt during the period January, 2012 till July, 2017.

Publications (Hint: my name is marked in bold)

1. Haque MS, Moniruzzaman M, Choi S, Kwak S, **Okilly AH**, Baek J. A Fast Loss Model for Cascade GaN-FETs and Real-Time Degradation-Sensitive Control of Solid-State Transformers. *Sensors*. 2023 Apr 29;23(9):4395.
2. **Okilly AH**, Kim N, Lee J, Kang Y, Baek J. Development of a Smart Static Transfer Switch Based on a Triac Semiconductor for AC Power Switching Control. *Energies*. 2023 Jan 3;16(1):526.
3. **Okilly AH**, Lee J, Kim N, Kwak S, Baek J. Design and Optimal Control of a Two-Stage Efficient and High PF AC-DC Converter for High-Power Density Industrial Applications. In 2022 14th International Conference on Software, Knowledge, Information Management and Applications (SKIMA) 2022 Dec 2 (pp. 170-175). IEEE.
4. **Okilly AH**, Baek J. Magnetic Power Components Design Analysis and Manufacturing For an-Isolated High-Power Density Telecom DC-DC Converter Stage. *전기학회논문지*. 2022 Jul;71(7):959-66.
5. **Okilly AH**, Baek J. Design and Fabrication of an Isolated Two-Stage AC–DC Power Supply with a 99.50% PF and ZVS for High-Power Density Industrial Applications. *Electronics*. 2022 Jun 16;11(12):1898.
6. **Okilly AH**, Kim N, Kwak S, Baek J. Digital Control Bridge/Bridgeless PFC Converters with Modified Current Controller for ZCD Reduction. In 2022 IEEE International Conference on Power Systems Technology (POWERCON) 2022 Sep 12 (pp. 1-6). IEEE.
7. **Okilly AH**, Baek J. Design of Wide Input Voltage Range and High PF Two-Stage AC-AC Converter Suitable for Inductive Loads. *전기학회논문지*. 2022 Apr;71(4):632-41.
8. **Okilly AH**, Jeong H, Baek J. Optimal IP Current Controller Design Based on Small Signal Stability for THD Reduction of a High-Power-Density PFC Boost Converter. *Applied Sciences*. 2021 Jan 7;11(2):539.
9. **Okilly AH**, Baek J. Optimal Design Analysis with Simulation and Experimental Performance Investigation of High-Power Density Telecom PFC Converters. *Applied Sciences*. 2021 Aug 27;11(17):7911.
10. **Okilly AH**, Kim N, Baek J. Inrush current control of high-power density DC–DC converter. *Energies*. 2020 Aug 19;13(17):4301.
11. G.El-Saady, El-Nobi A. Ibrahim and **Ahmed H.Okilly**, “Sequential Technique Based AC-DC Power Flow Analysis for Medium and Long Transmission Systems”, Middle East Power System (MEPCON) Conference, Egypt, Dec 2015.

12. G. El-Saady, El-Nobi A. Ibrahim and **Ahmed H. Okilly**, "Analysis and control of HVDC transmission power system", Power Systems Conference (MEPCON), 2016 Eighteenth International Middle East, pp. 190-198, IEEE, Dec 2016.
13. G.El-Saady, El-Nobi A. Ibrahim and **Ahmed H.Okilly**. "HVDC FACTS Controller for Load Frequency Control System", Fourth International Conference on Energy Engineering (icee-4), December 26-28, 2017.
14. **AH Okilly**, Y Kang, N Kim, S Kwak, J Baek "Fault Diagnosis for Power Electronic Components in Regenerative Power Converters Utilizing Breaking Power of Urban Railway: Approaches and Detection Technique" Korean Society of Mechanical Engineers Spring/Autumn Conference, Jun 2022, pp: 239-240.

Experience

- 1) My graduation project title was "**Electrification Design and Power System Distribution of anew City**". In this project I studied the designing of the complete distribution system of a new city actually under construction, I designed the medium and low voltage circuits of all the buildings in this city, all the expected loads in this city is estimated, the expected short circuits currents and voltage drops is also calculated manually and using ETAP and Matlab software to make a comparative study for system proper and safety operation. Indoor Lighting, sockets, cables wiring and HVAC systems are designed using dialux and AutoCAD software analysis, medium voltage circuits, cables design of the city and distribution transformers is also studied.
- 2) From Oct 2012 to Oct 2013 and during the period of military service in the Egyptian army, I worked as a technical engineer in the signal corps in the Egyptian armed forces.
- 3) My master Thesis title was "**High Voltage Direct Current Transmission Systems for Enhancing Power System Performance**". An electric power system with DC links requires a special analysis for power flow study that takes their characteristics into account. The thesis proposed an AC-DC load flow algorithm to solve a power flow problem with DC links. The algorithm is called sequential technique. The essential feature of the proposed algorithm is that it is fast and easy to be implemented in real time. This algorithm is tested using medium and long transmission standard test systems. Results using the proposed sequential method are compared with a previous work using modified Newton Raphson Method .A comparison between HVAC and HVDC transmission systems based on power losses are also performed.
- 4) My PhD Thesis title was "**Optimal Design and Implementation of a High-Power Density Two-Stage AC-DC Power Supply in Telecom Power Server Applications**". In this thesis, we proposed the optimal design of the two stage AC-DC telecom power converters with power density about 2KW, PF more than 99.9% and efficiency about 99%, the complete power converter was manufactured and tested also in our lab.
- 5) During my PhD study and Postdoc research periods, I participated and worked in different projects with different fund organizations such as Ministry of Land Infrastructure and Transport of the Korean government, National Research Foundation of Korea (NRF), the MSIT, and many other funding organizations.

6) I assisted in teaching the following undergraduate courses:

- Electric Circuits (1) (1st Year)
- Electric fields (1) (1st Year)
- Electric Circuits (2) (2nd Year)
- Electrical measurements (2nd Year)
- Electrical Power Systems (3rd Year)
- Power Electronics (3rd Year)
- Power System Control (4th Year)
- Power System Stability (4th Year)
- Power System Analysis (4th Year)
- Electrical Tests (1st and 3rd Years)
- Power Distribution System (4th Year)

Activities

- I participated in organization of the Thirteen International Middle East Power Systems Conference (MEPCON'2009), which held at the Electrical Engineering Department, Assiut University, Assiut, Egypt, and December 20-23, 2009.
- I contributed in scheduling of different exercise sessions of the power and machine section students.
- I attended Faculty and Leadership development project "FLDP" courses which develop research, publication, presentation, and communication skills with attending more than 12 training courses and internships programmers.

Skills

- Simulation Programs: ETAP, MATLAB / MATLAB SIMULINK, dialux, AutoCAD, powerex, psim, multisim, TINA, ANSYS.
- Microsoft Office programs (Word, Excel, Visio and Power Point).

References

1. Jeihoon Baek

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