

FATIHA BOUHADJI

Doctor of Engineering

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N 32 HAY CHOUITTE CHAGGA CHLEF ALGERIAN

EDUCATION

PhD in Electrical Engineering
Hassiba Benbouali University of Chlef, Alger
2022 – 2026

Master in Electrical Engineering – Electrical Networks
Hassiba Benbouali University of Chlef, Alger
2020 – 2022

Bachelor Electrotechnics
Hassiba Benbouali University of Chlef, Alger
2017 – 2020

SKILLS AND EXPERTISE

- Electrical Power Engineering
- Power Electronics
- Power Systems Simulation
- Electrical & Electronics Engineering
- MATLAB Simulation
- Renewable Energy Technologies

LANGUAGE

Algerian Arabic

English

French

About Me

I am Fatiha Bouhadji, a PhD holder in Electrical Engineering specializing in power quality improvement in grid-connected photovoltaic (PV) systems. My doctoral research focused on developing a Third-Order Sliding Mode Control (TOSMC) strategy for three-level inverter-based shunt active power filters. I have strong expertise in MATLAB/Simulink, power electronics, renewable energy systems, and advanced control techniques, with extensive experience in modeling, simulation, and optimizing modern power systems.

Research Experience

PhD Researcher Hassiba Benbouali University of Chlef | 2022-2026

- Conducted research on power quality improvement in grid-connected photovoltaic (PV) systems.
- Designed and simulated advanced control strategies using MATLAB/Simulink.
- Developed a Third-Order Sliding Mode Control (TOSMC) algorithm for a three-level inverter-based shunt active power filter.
- Analyzed system performance under different operating conditions and validated compliance with IEEE 519 standards.

Teaching Experience

Teaching Assistant or Temporary Lecturer Hassiba Benbouali University of Chlef | 2024 – 2026

- Assisted in laboratory sessions and tutorials for electrical engineering courses.
- Guided students in MATLAB/Simulink simulations and engineering projects.
- Supported course preparation and student assessments.

Scientific Publications

- Bouhadji, F., Bouyakoub, I., Mehedi, F., Kacemi, W. M., & Reguieg, Z. (2024). Optimization of grid power quality using third order sliding mode controller in PV systems with multilevel inverter. Energy Reports, 12, 5177-5193. https://doi.org/10.1016/j.egyr.2024.10.064
- Reguieg, Z., Bouyakoub, I., Mehedi, F., & Bouhadji, F. (2024, May). Enhancing electrical grid stability through power quality optimization via PV-PO-UPQC: An integrated approach. In 2024 2nd International Conference on Electrical Engineering and Automatic Control (ICEEAC) (pp. 1-7). IEEE.https://doi.org/10.1109/ICEEAC61226.2024.10576557
- Reguieg, Z., Bouyakoub, I., Mehedi, F., & Bouhadji, F. (2024). Robust harmonic elimination method for various load condition Journal of Renewable Energies, 73-84.
- BOUHADJI, F. (2026). DOCTORATE (LMD) (Doctoral dissertation, University of Chlef).