

FARES EL-FAOURI

Third-year Ph.D. student of Electrical Engineering - Tokyo Institute of Technology, Tokyo, Japan.
Specialty: Electric Machines and Motors.



PERSONAL

- Name**
Fares El-Faouri
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LANGUAGES

- Arabic ★★★★★
- English ★★★★★
- Japanese ★★
- French ★

WORK EXPERIENCE

- Oct 2023 - Dec 2023 Teaching Assistant (TA)**
Tokyo Institute of Technology, Tokyo, Japan
Teaching Assistant at the Electrical and Electronic Engineering department of the course:
"Magnetic Levitation and Bearingless Motors".
- Oct 2021 - Oct 2024 Research Assistant (RA)**
Tokyo Institute of Technology, Tokyo, Japan
Conducting research in the projects of:
 - Magnetostriction contribution to the vibration and acoustic noise of motors.
 - Magnetostriction simulation in finite element analysis platforms and comparing it with experimental findings.
- Jun 2018 - Feb 2020 Lecturer**
Alzaytoonah University, Amman, Jordan
Lecturer of the courses:
 - Overhead & Underground Transmission Systems.
 - Power Systems Analysis.
 - Electric Machines.
 - Power Systems Protection.
- Sep 2015 - Jun 2017 Research Assistant (RA)**
Princess Sumaya University for Technology, Amman, Jordan
Research Assistant in the fields of:
 - Smart grids.
 - Demand side Management of the Grid.
 - Nickel-Cadmium Batteries Lifetime Modelling.
- Sep 2015 - Jun 2017 Teaching Assistant**
Princess Sumaya University for Technology, Amman, Jordan
Teaching assistant for undergraduate courses at the Electrical Engineering department.
- Jun 2015 - Sep 2015 Intern**
Royal Scientific Society, Amman, Jordan
Three months trainee at the Jordanian Royal Scientific Society involving field training on designing and installing Photovoltaic-panel systems, as well as introductory design lectures of wind turbine systems.



EDUCATION AND QUALIFICATIONS

Oct 2020 - Oct 2024

Ph.D. in Electrical Engineering - Electric Motors

Tokyo Institute of Technology, Tokyo, Japan

Ph.D. doctoral student under the supervision of Professor Akira Chiba, in Chiba laboratory, at the Electrical and Electronics Engineering department in the Graduate School of Engineering.

Ph.D. thesis : Vibration and Acoustic Noise Reduction of Switched Reluctance Motors by Current and Radial-Force Shaping.

Sep 2015 - Sep 2017

M.Sc. in Electrical Engineering - Electric Motors

Princess Sumaya University for Technology, Amman, Jordan

M.Sc. student under the supervision of Professor Wejdan Abu-Elhaija and co-supervision of Professor Omar Mohamed, at the Electrical Engineering department in the Graduate School of Engineering.

M.Sc. thesis : Mutual Flux Saturation Influence on Field-Oriented Control of Induction Motors.

Sep 2011 - Sep 2015

B.Sc. in Electrical Engineering - Electric Power and Energy

Princess Sumaya University for Technology, Amman, Jordan

Ranking the first place and highest score of the Electrical Power Engineering major.

Achieving the Outstanding Academic Achievement award.

Sep 2010 - Sep 2011

General Secondary Education Certificate Examination - Scientific Stream

Terra Sancta College, Amman, Jordan

Achieving 95.0 out of 100 in the overall score.



PUBLICATIONS

- Y. Cai, **F. S. El-Faouri**, N. Saikawa, A. Chiba and S. Yoshizaki, "Magnetostriction Vibration and Acoustic Noise in Motor Stator Cores," in *IEEE Transactions on Industry Applications* Early Access, April 2024.
- **F. S. El-Faouri**, Y. Cai, Y. Fujii and A. Chiba, "Mathematical Current Derivation for Acoustic Noise Reduction in Switched Reluctance Motors," in *IEEE Transactions on Industry Applications* vol. 60, no. 1, pp. 388-399, Jan.-Feb. 2024.
- **F. S. El-Faouri**, Y. Cai, A. Chiba and Y. Fujii, "Acoustic Noise Reduction and Radial-Force Sum Flattening of Switched Reluctance Motors by Analytical Force Shaping," 2023 *IEEE Energy Conversion Congress and Exposition (ECCE)*, Nashville, TN, USA, 2023, pp. 4446-4450.
- Y. Cai, **F. S. El-Faouri**, N. Saikawa, A. Chiba and S. Yoshizaki, "Magnetostriction Effect on Vibration in Switched Reluctance Motors," 2023 *IEEE Energy Conversion Congress and Exposition (ECCE)*, Nashville, TN, USA, 2023, pp. 4434-4441.
- J. Xiang, Y. Cai, **F. S. El-Faouri** and A. Chiba, "Radial Force Control in Switched Reluctance Motors Using Strain Gauges," 2023 *IEEE Energy Conversion Congress and Exposition (ECCE)*, Nashville, TN, USA, 2023, pp. 5163-5169.
- **F. S. El-Faouri**, Y. Cai, A. Chiba and Y. Fujii, "Analytical Radial-Force Sum Flattening of Switched Reluctance Motors Considering Current RMS," 2023 *IEEE International Electric Machines & Drives Conference (IEMDC)*, San Francisco, CA, USA, 2023, pp. 1-5.
- Y. Cai, **F. S. El-Faouri**, A. Chiba, Y. Fujii and K. Kiyota, "Electromagnetic Force Estimation by Using Strain Gauges in Permanent Magnet Motors," 2023 *IEEE International Electric Machines & Drives Conference (IEMDC)*, San Francisco, CA, USA, 2023, pp. 1-6.
- **F. S. El-Faouri**, Y. Cai, Y. Fujii and A. Chiba, "Mathematical Derivation of Current Reference for Radial-Force Sum Flattening in Switched Reluctance Motors," 2022 *IEEE Energy Conversion Congress and Exposition (ECCE)*, Detroit, MI, USA, 2022, pp. 1-6.
- Y. Cai, **F. S. El-Faouri**, N. Saikawa and A. Chiba, "Measurement of Vibration and Acoustic Noise Generated by Magnetostriction in Three Stator Cores Made of High Silicon Steel, Amorphous Iron, and Conventional Silicon Steel," 2022 *IEEE Energy Conversion Congress and Exposition (ECCE)*, Detroit, MI, USA, 2022, pp. 1-7.
- **F. S. El-Faouri**, M. Alzahlan, M. Batarseh, A. Mohammad, and M. Za'ter, "Modeling of a microgrid's power generation cost function in real-time operation for a highly fluctuating load", *Simulation Modelling Practice and Theory*, Volume 94, 2019, pp. 118-133.
- M. W. Alzahlan, **F. S. El-Faouri**, M. G. Batarseh, A. Mohammad and M. E. Za'ter, "Particle Swarm Optimization of a Microgrid's Cost Function Involving Distributed Generation and Highly Fluctuating Load," 2019 *IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT)*, Amman, Jordan, 2019, pp. 319-324.
- **F. S. El-Faouri**, O. Mohamed and W. A. Elhajja, "D-Q model and control of a three-phase induction motor considering mutual flux saturation effect," 2017 *10th Jordanian International Electrical and Electronics Engineering Conference (JIEEEEC)*, Amman, Jordan, 2017, pp. 1-6.
- **F. S. El-Faouri**, O. Mohamed and W. A. Elhajja, "Model-Based Field-Oriented Control of a Three-Phase Induction Motor with Consideration of Rotor Resistance Variation", *International Review of Electrical Engineering (IREE)*, Volume 14, No. 3, 2019.
- **F. S. El-Faouri**, O. Mohamed and W. A. Elhajja, "Comparison of Three-Phase Induction Motor Control Models Incorporating Mutual Flux Saturation Effect", *International Journal on Energy Conversion (IRECON)*, Volume 5, No. 5, 2017.
- **F. S. El-Faouri**, M. Sharaiha, D. Bargouth and A. Faza, "A smart street lighting system using solar energy," 2016 *IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe)* Ljubljana, Slovenia, 2016, pp. 1-6.
- Additionally, 4 IEEE Transactions on Industry Applications papers are currently being submitted / reviewed. (As of April 2024).



SKILLS

Ansys Workbench FEA software	★ ★ ★ ★ ★
Ansys-Maxwell Electromagnetic FEA software	★ ★ ★ ★ ★
Ansys-Mechanical FEA software	★ ★ ★ ★ ★
PSIM simulation software	★ ★ ★ ★ ★
MATLAB software and environment	★ ★ ★ ★ ★
PE-Expert4 inverter drive system	★ ★ ★ ★ ★
O-Solution ds-5000 measurement system	★ ★ ★ ★ ★
Microsoft Word, Excel, and PowerPoint	★ ★ ★ ★ ★
Wolfram Mathematica software	★ ★ ★ ★ ★



HOBBIES AND INTERESTS

- Calisthenics.
 - Swimming.
 - Reading History books.
 - Reading Philosophy of Science books.
 - Gaming.
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REFERENCES

References available on request.