

Dr. Fares S. El-Faouri

Assistant Professor & Venture
Lab Manager



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📍 Amman, Jordan

📄 SUMMARY

Assistant professor in the department of Electrical and Electronics Engineering and Venture Lab manager at Princess Sumaya University for Technology, Amman, Jordan.
Specialty: Electric Machines and Motors.

🌐 LANGUAGES

Arabic	● ● ● ● ●
English	● ● ● ● ●
Japanese	● ● ● ● ●
French	● ● ● ● ●

🏆 AWARDS

MEXT Scholarship Recipient

Government of Japan (Oct 2020 – Oct 2024)

- Fully funded, highly competitive global scholarship awarded by the Ministry of Education, Culture, Sports, Science and Technology (MEXT).
- Sponsored full-time doctoral research and PhD studies in Electrical Engineering.

Third Place Best Paper Award 🏆

IEEE Industry Applications Society (IAS) (2024)

- Recognized for outstanding research published in the *IEEE Open Journal of Industry Applications*.
- Paper Title: "Refinement of Analytical Current Waveform for Acoustic Noise Reduction in Switched Reluctance Motor"

👛 PROFESSIONAL EXPERIENCE

Princess Sumaya University for Technology

Venture Lab Manager

06/2026 – Present | Amman, Jordan

- Incubation Leadership: Manage operational workflows, industry partnerships, and entrepreneurial projects within the university's technical incubator.
- Strategic Oversight: Align lab resources with engineering department initiatives to foster student-led innovation.

Princess Sumaya University for Technology

Assistant Professor

10/2024 – Present | Amman, Jordan

Assistant professor in the department of Electrical and Electronics Engineering, teaching the courses:

- Power Systems Economics.
- Power Systems Analysis.
- Electric Circuits I.
- Electric Circuits II.
- Electric Machines I.
- Electric Machines II.
- Advanced Electric Machines (for MSc students).

Institutue of Science Tokyo

Teaching Assistant (TA)

10/2023 – 12/2023 | Tokyo, Japan

Teaching Assistant at the Electrical and Electronic Engineering department of the course:
"Magnetic Levitation and Bearingless Motors".

Institutue of Science Tokyo

Research Assistant (RA)

10/2021 – 10/2024 | 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.

Alzaytoonah University

Lecturer

06/2018 – 02/2020 | Amman, Jordan

Teaching the courses:

- Overhead & Underground Transmission Systems.
- Power Systems Analysis.
- Electric Machines.
- Power Systems Protection.

EDUCATION

Ph.D. in Electrical Engineering - Electric Motors

Institute of Science Tokyo 

10/2020 – 10/2024 | 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.

M.Sc. in Electrical Engineering - Electric Motors

Princess Sumaya University for Technology 

09/2015 – 09/2017 | 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.

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

Princess Sumaya University for Technology 

09/2011 – 09/2015 | Amman, Jordan

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

Achieving the Outstanding Academic Achievement award.

General Secondary Education Certificate Examination - Scientific Stream

Terra Sancta College

09/2010 – 09/2011 | Amman, Jordan

Achieving 95.0 out of 100 in the overall score.

PUBLICATIONS

Journal Publications

- **F. S. El-Faouri**, M. G. Batarseh, H. J. Jaber, A. Faza, and W. A. Elhaija, " Hybrid Inverters With Dual Switching Frequencies for Switched Reluctance Motors," *Energy Science & Engineering* 0 (2026): 1-10.
- **F. S. El-Faouri et al.**, "Dual Flattening of Radial Force and Torque Waveforms in Switched Reluctance Motors," in *IEEE Open Journal of Industry Applications*, vol. 7, pp. 500-511, 2026.
- M. G. Batarseh, Y. Samer Al-Jizawi, **F. S. El-Faouri** and L. Nidal Bulbul, "A Novel Unipolar Pulse-Width Modulation Scheme for Single-Phase H-Bridge Inverters With Balanced Switch Loss Distribution," in *IEEE Access*, vol. 13, pp. 163235-163245, 2025.

- **F. S. El-Faouri**, Y. Cai et al., "Torque Ripple Minimization in Switched Reluctance Motors With Acoustic Noise Mitigation by Current Waveform Shaping," in *IEEE Open Journal of Industry Applications*, vol. 6, pp. 403-414, 2025.
- Y. Cai, **F. S. EL-Faouri**, A. Chiba and S. Yoshizaki, "An Experimental Study on Phases of Vibrations Caused by Magnetostriction and Electromagnetic Force," in *IEEE Open Journal of Industry Applications*, vol. 6, pp. 316-324, 2025.
- **F. S. El-Faouri**, Y. Cai, K. Kiyota, N. Saikawa, A. Chiba and Y. Fujii, "Logistic-Function Shaping of Radial Force for Acoustic Noise Reduction in Switched Reluctance Motor," in *IEEE Transactions on Industry Applications*, vol. 61, no. 4, pp. 6357-6368, July-Aug. 2025.
- Y. Cai, **F. S. El-Faouri**, N. Saikawa, A. Chiba and S. Yoshizaki, "Magnetostriction Effect on Vibration and Acoustic Noise in Switched Reluctance Motor," in *IEEE Transactions on Industry Applications*, vol. 61, no. 2, pp. 2983-2995, March-April 2025.
- Y. Cai, **F. S. El-Faouri**, A. Chiba and S. Yoshizaki, "Magnetostriction Effect on Vibration and Acoustic Noise in Permanent Magnet Synchronous Motors," in *IEEE Open Journal of Industry Applications*, vol. 5, pp. 442-454, 2024.
- **F. S. El-Faouri**, Y. Cai and A. Chiba, "Refinement of Analytical Current Waveform for Acoustic Noise Reduction in Switched Reluctance Motor," in *IEEE Open Journal of Industry Applications*, vol. 5, pp. 325-337, 2024.
- 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*, vol. 60, no. 4, pp. 6066-6078, July-Aug. 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**, 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.
- **F. S. El-Faouri**, O. Mohamed and W. A. Elhaija, "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. Elhaija, "Comparison of Three-Phase Induction Motor Control Models Incorporating Mutual Flux Saturation Effect", *International Journal on Energy Conversion (IRECON)*, Volume 5, No. 5, 2017.

Conference Publications

- **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.
- 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. Elhaija, "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**, 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.



SKILLS

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



INTERESTS

- Teaching.
- Writing.
- Calisthenics.
- Gaming.