Taha EL HAJJI

Electric Machine Designer

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Website | Linkedin | Google Scholar | ResearchGate

EXPERIENCE

2024- **AISIN,** *United Kingdom.*
Electromagnetic Research Engineer.

2022-2024 **Aalto University,** *Espoo, Finland.*
- Postdoctoral Researcher on Modeling of High-Speed Electrical Machines,
- Teaching Course of Finite Element Theory in Electromechanics,
- Instructor of Laboratory work Electromechanics,
- Supervisor of PhD and internship students,
- Responsible for the scientific communication: Website and Linkedin page of the research group.
- Responsible for the scientific communication: Website and Linkedin page of the project CoE-HiECSs.

2018-2022 **STELLANTIS,** French Automotive Company, *Vélizy, France.*
Research and Development Engineer, Industrial PhD work.

2021 **Laboratory SATIE – Paris-Saclay University,** *Gif-sur-Yvette, France.*
Supervisor of Master's Thesis
« Experimental Evaluation of AC Losses in Slot's Windings at high frequency ».

2021 **CNAM**, French Graduate School in Electrical Engineering, *Paris, France*.
Supervisor of Practical Works for Graduate Students.

2020 **EPE 2020 – ECCE: European Conference on Power Electronics**
Co-Chair of Conference Session.

2018 **STELLANTIS,** French Automotive Company, *Vélizy, France.*
Master Thesis: Modeling Analysis of Innovative Hybrid Electric Vehicles.

2017 – 2018 **University of Paris Diderot,** *Paris, France.*
Tutor of Mathematics for Undergraduate Students.

2017 **AKKA Technologies**, *Blagnac, France.*
Bachelor Thesis: Sizing of input PWM's Filter by analytic calculus to optimize the mass of the drone Omega.

2016 – 2017 **Laboratory LAPLACE – ENSEEIHT Engineering School**, *Toulouse, France.*
Academic Project: Sizing of the converter of an electric vehicle.

EDUCATION

2018 – 2023 (March) **Paris-Saclay University – Laboratory SATIE**, *Gif-sur-Yvette, France*.
In partnership with **STELLANTIS** (French Automotive Company)
Ph.D.: Modeling and Optimization of High-Speed Electrical Machines for Electric Vehicles.

2017 – 2018 **Paris-Saclay University,** Top French University in Electrical Research, *Gif-sur-Yvette, France*.
Master of Science by Research: Automotive Propulsion and Electrification.

2015 – 2017 **ENSEEIHT,** Top French Graduate Schools in Electrical Engineering, *Toulouse, France.*
Master of Electrical Engineering: Electrical Machines, Power Electronics, Control.

2015 – 2016 **University of Toulouse III**, *Toulouse, France.*
Bachelor of Mathematics: Linear Algebra, Probability, Functional Analysis, Topology.

2012 – 2015 **CPGE Henri Poincare – Pothier,** *Nancy-Orleans, France.*
French Preparatory Classes in Mathematics, Physics and Programming: *Three years of advanced classes to prepare fresh high school graduates to sit highly competitive national entrance exams.*

PUBLICATION

Google Scholar: Profile Taha EL HAJJI

2023 **AC Losses in Windings: Review and Comparison of Models with Application to Electric Machines,** *T. El Hajji*, S. Hlioui, F. Louf, M. Gabsi, A. Belahcen, G. Mermaz-Rollet, M. Belhadi, IEEE Access, Early Access,* (DOI: 10.1109/ACCESS.2023.3345014).

2023 **Benchmark of High-Speed Electric Machines for Fully Electric Regional Aircraft Targeting 20kW/kg Specific Power,** *T. El Hajji*, A. Lehikoinen, A. Hemeida, F. Martin, A. Belahcen, Conference COMPUMAG 2023, Kyoto, Japan.*

2023 **Optimal Design of High-Speed Electric Machines for Electric Vehicles: A case Study of 100 kW V-shaped Interior PMSM,** *T. El Hajji*, S. Hlioui, F. Louf, M. Gabsi, G. Mermaz-Rollet, M. Belhadi,* Machines 11, no. 1: 57, (DOI: 10.3390/machines11010057).

2020 **Hybrid model for AC Losses in High Speed PMSM for arbitrary flux density waveforms,** *T. El Hajji*, S. Hlioui, F. Louf, M. Gabsi, G. Mermaz-Rollet, M. Belhadi,* ICEM Conference 2020, Gothenburg, Sweden, (DOI:*10.1109/ICEM49940.2020.9271017*).

2019 **Efficiency Improvement of a Series–Parallel Hybrid Electric Powertrain by Topology Modification,** *B. Kabalan, E. Vinot, C. Yuan, R. Trigui, C. Dumand, T. El Hajji*,* IEEE Transactions on Vehicular Technology 2019, (DOI:*10.1109/TVT.2019.2952190*).

2019 **Sensitivity Analysis on the Sizing Parameters of a Series-Parallel HEV,** *T. El Hajji*, B. Kabalan, Y. Cheng, E. Vinot, C. Dumand,* Conference of IFAC AAC 2019, Orleans, France, (DOI:*10.1016/j.ifacol.2019.09.065*). Awarded: Young Author Award.

SKILLS

Softwares (Comsol, Ansys, Femm)	**Communication**	**Project Managment**	**Rigorous**
Programming (Matlab, Python, Caml, Latex)	**Self-Motivation**	**Critical Thinking**	**Attentive to Details**

AWARDS

2019 **Young Author Award,** IFAC AAC Conference 2019, *Orleans, France.*

LANGUAGES

English	**French**	**Finnish**
Fluent	Mother tongue	Basics

HOBBIES

Scientific Communication on Linkedin *(2 years)*	**Guitar** *(8 years)*	**Music Theory** *(9 years)*	**Taekwondo** *(3 years)*	**Brazilian Jiu Jitsu** *(1 year)*
Swimming *(12 years)*	**Soccer** *(10 years)*	**Chess** *(10 years)*	**Sudoku** *(5 years, School Award)*	**Kung-Fu** *(1 year)*