

CURRICULUM VITAE

Name Dr. Hani SAAD
Nationality Canadian/French
Birth January 03,1984
Address 27 rue Baraban, 69003, Lyon, France
Tel +33 (0)6 47 41 37 86
Email hani.saad@ACDCtransient.com
Position Technical Expert in grid integration of HVDC and Renewable Energy Systems

Work experiences

- 2022 – to date Senior Expert and Independent Consultant specializing in grid integration of HVDC and Renewable Energy Systems. Actively involved in the largest HVDC projects worldwide, including 2 GW HVDC offshore projects in the UK and Europe, as well as a 5 GW HVDC project in the USA.
- Grid studies : Grid code compliance, Network interaction studies, Dynamic behavior related to HVDC link and renewable resources
 - Project support : Specification, system design and system studies review, Support for commissioning and incident analysis
 - Dynamic modeling development and training : Private training on HVDC and renewable energy system, EMT modeling development
- 2016 – 2022 Power electronic devices expert at RTE and RTE-International, France
- Technical support from planning up to the commissioning of HVDC projects in France: INELFE (2 GW), FIL (1.2 GW), IFA2 (1 GW) and Celtic (700 MW): planification studies, specifications, system design review and commissioning
 - Electromagnetic transient (EMT) studies and modeling in EMT-tools for offline and real time simulations (PSCAD, EMTP-rv, Opal-RT, RTDS and Hypersim.)
 - Grid code compliance for renewable power installation in France : wind farm, BESS and photovoltaic
 - Involvement in R&D subjects : European BESTPATH project and Ph.D. programs with Aberdeen University, École Centrale de Lille and Polytechnic of Montréal
 - Technical support for the world largest HVDC offshore wind farm projects: system design and system studies review and consultancy
 - Interaction studies for HVDC Johan Sverdrup projects phase A&B (rated power 100 and 200 MW), Norway : the first two parallel HVDC installations in grid forming operation
 - Support and training for UTE (Uruguayan TSO) engineers on overvoltage studies related to wind farms and HVDC systems in their power transmission system (500 and 150 kV)
 - Interaction studies on the French transmission network involving

several wind farms and HVDC systems

- 2012 - 2016 Power system engineer at RTE, France
- Technical support from planning up to the commissioning of INELFE HVDC link 2 GW
 - Electromagnetic transient studies and modeling in EMT-tools for offline and real time simulations (PSCAD, EMTP-rv, Hypersim, Opal-RT)
 - System studies of HVDC links and Wind Farm integrations in the French power transmission system : dynamic performance and interaction studies
- 2008 - 2010 Service engineer and researcher at TechImp Spa. and University of Bologna, Italy
- Diagnostic and monitoring of partial discharges in HV equipment
 - R&D on non-conventional sensors to detect partial discharges in HV electrical equipment
- 2007 Internship at Hydro-Québec's Research Institute IREQ, Canada

University Education

- 2011 - 2015 Ph.D. degree in electrical engineer at Polytechnic of Montreal, Canada
Title: Modeling and real-time simulation of VSC-MMC based HVDC transmission system
- 2003 - 2007 Received the B.Sc. degree in electrical engineer from Polytechnic of Montreal, Canada

Awards and realizations

- 2025 Award of the "Engineer of the Year" IEEE Power and Energy Societ, France.
- 2015 Award for the best Ph.D. thesis of Polytechnic of Montreal, Canada
- 2014 Winner of the French IEEE PES for Ph.D. students "Soirée des doctorants du chapitre français de l'IEEE PES"
- 2008 Award of Excellence for B.Sc. student "Profil de Vinci" discerned by the Polytechnic of Montreal, Canada

Experiences in international organization

- 2023 : Member of the Cigre B4 Advisory Group AG01
- 2022-2024 : French Representative of the Cigré National Committee B4: DC systems and Power Electronics
- Member of ENTSOE Expert Group: Interaction Studies and Simulation Models
- Regular reviewer for IEEE Transactions of Power Delivery, Industrial Electronics.
- Involved in the organization and participation of several Cigré Paris workshops : Cigré Centennial session 2021, Cigré Paris 2020, Cigré Paris 2018, Cigré Paris 2016

- Member of the Technical Committee and the organization of the International Conference on Power System Transients IPST2019, Perpignan, France
- Active member in Cigré working groups :
 - Convenor of B4.84 "Feasibility study and application of electric energy storage systems embedded in HVDC systems"
 - Member of B4/B1/C4.73 "Surge and extended overvoltage testing of HVDC Cable Systems"
 - Chapter Leader in B4-81 "Interaction between nearby VSC-HVDC converters, FACTS devices, HV power electronic devices and conventional AC equipment"
 - Member of B4-71: "Application guide for the insulation coordination of Voltage Source Converter HVDC (VSC HVDC) stations"
- Contributing member in CIGRE brochures :
 - C4-56 "Electromagnetic transient simulation models for large-scale system impact studies in power systems having a high penetration of inverter connected generation"
 - B4.70, TB 832 "Guide for Electromagnetic Transient Studies involving VSC converters", 2021 : Chapter leader
 - B4-67, TB 754 "AC side harmonics and appropriate harmonic limits for VSC HVDC", 2019
 - B4 TF-77 "AC Fault response options for VSC HVDC Converters" 2019
 - B4-57, TB 604 "Guide for the Development of Models for HVDC Converters in a HVDC Grid", 2014

Publications

- Book
 - Badrzadeh, B., Emin, Z. (eds) "Power System Dynamic Modelling and Analysis in Evolving Networks" CIGRE Green Books, Springer 2024. Co-author in Chapter 3.
 - H. Saad, S. Denetière, J. Mahseredjian, et al "Simulation of Transients for VSC-HVDC Transmission Systems Based on Modular Multilevel Converters", in Transient Analysis of Power Systems: Solution Techniques, Tools and Applications. Wiley-IEEE Press, Jan 2015
- Journal and conference papers
More than 50 journal and conference papers as first author or co-author

Technical skills and Miscellaneous

Software	MATLAB, PSCAD, EMTP-rv, Opal-RT, Hypersim, RTDS
Languages	Native language in French. Fluent in English, Italian and Arabic. Basic in Hungarian