

# CURRICULUM VITAE

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

## Work experiences

2022 – to date Senior Expert as independent consultant and CEO of ACDC Transient SARL, France

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**

- 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**

- 2022 : French Representative of the Cigré National Committee B4.
- 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 : Workshop on C4-56 "Electromagnetic transient simulation models for large-scale system impact studies in power systems having a high penetration of inverter connected generation"
  - Cigré Paris 2020 : Workshop on Interaction assessment of VSC-HVDC links using EMT-type tools (from offline to real-time)
  - Cigré Paris 2018 : Workshop related to B4-70 " Analysis of Electromagnetic Transients with VSC converters"
  - Cigré Paris 2016 : Workshop on "Real-time Simulation to support installation and operation of HVDC/FACTS on transmission grids"
- 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 C4-56 “Electromagnetic transient simulation models for large-scale system impact studies in power systems having a high penetration of inverter connected generation”
- Member of B4-71: “Application guide for the insulation coordination of Voltage Source Converter HVDC (VSC HVDC) stations”
- Contributing member in CIGRE brochures :
  - 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  
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