



Semaan Georges

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Biography

Semaan Georges received his Ph.D. in Electrical Engineering in 2001 from the École de Technologie Supérieure, Montréal, his ME in 1995 from the École Polytechnique, Montréal and his BE in 1989 from the Higher Institute of Mechanical and Electrical engineering, Sofia. He worked on various research projects for Hydro-Québec, the Natural Sciences and Engineering Research Council of Canada, Electricité de France, and the Lebanese National Council for Scientific Research. His research contributions include the design of a grounding system for a high voltage power system, modeling and algorithms development. Also, he worked on several research projects in power electronics, electric power quality, renewable energy sources, design and implementation of active filters. Semaan Georges joined Notre Dame University-Louaize in October 2001. He is currently a professor and Chairperson of the Department of Electrical, Computer and Communication Engineering.

Peer-reviewed Journals

- F. H. Slaoui, S. Georges & F. Erchiqui, "Soil Parameter Estimation in a Vertical N-Layer Structure Using the Inversion Method." Journal of Electrical and Control Engineering, Vol. 2, Iss. 4, PP. 13 19, August 2012.
- H. Y. Kanaan, S. Georges, K. Al-Haddad & I. Mougharbel, "Design, Modeling, Control and Simulation of a Three-Phase DC-DC Converter for High Currents Applications". IET Power Electronics Journal, ISSN 1755-4535, Vol. 4, Iss. 4, pp.424-434, 2011
- Y. Mohanna, O. Bazzi, A. Zaiour, A. Alaeddine, S. Georges & F. Slaoui, "Environmental Non-speech Sound Recognition Using Hidden Markov Model. Case study: Glass Break sounds." The International Review on Computers and Software (IRECOS), ISSN 1828-6003, Vol. 5, N. 2, March 2010
- F. H. Slaoui, S. Georges, P. J. Lagace, & Y. M. Mhanna, "New Inversion Method for Soil Parameters Estimation in a Horizontal n-layer Structure". The International Review of Electrical Engineering, ISSN 1827-66601, Vol. 4 No.2, March-April 2009
- R. Eid, S. Georges & R. Jabr, "Improved Fast Decoupled Power Flow", Palma Journal, Notre Vol. 10 No 1, 2008, pp 17 28
- R. Jaber, S. Georges & E. Nassar "Optimal Power Flow Solution of the Lebanese Power System", Palma Journal, Volume 10, No 1, 2008, pp 5 13
- S. Georges, H.Y. Kanaan, A. Hayek & K. Al-Haddad, "Modeling, Simulation and Control Design of a PWM Three-Phase Four-Wire Shunt Active Power Filter for a 60kW Industrial Load", The International Review of Electrical Engineering, August 2006, pp 443 – 451
- N. Kandil, R Wamkeue, M. Saad & S. Georges, "An efficient approach for short term load forecasting using artificial neural networks", The International Journal of Electrical Power & Energy Systems, Volume 28, Issue 8, October 2006, pp. 525 530.
- Slaoui F., Georges. S., Lagacé P. J., & Do X. D., "The Inverse Problem of Sclumberger Resistivity Sounding Measurements by Ridge Regression" The Journal of Electric Power Systems Research, August 2003, pp 109-114

Peer-reviewed Conference Proceedings

- C. Ibrahim1, I. Mougharbel, N. Abou Daher, H. Y. Kanaan, Ma. Saad & S. Georges, "A Novel Generic Architecture for the Implementation of Demand Response Programs in a Smart Grid", IEEE International Conference on Industrial Technology, Toronto, March 22-25, 2017.
- A. Bouakra, F. Slaoui-Hasnaoui, M. Rustom & S. Georges, "Voltage Regulation of Electric Power Network Interconnected with Wind Energy Distributed Generations". The IEEE 2nd International Conference on DC Microgrids, Nürnberg, Germany, June 27-29, 2017.
- I. Djamel, F. H. Slaoui, & S. Georges, "Transient Response of Grounding Systems Under Impulse Lightning Current," The 2016 Electric Power Quality and Supply Realibility (PQ 2016), August 29 31, Tallinn, Estonia, pp. 71 75.
- A. Bouakra, F. Slaoui-Hasnaoui & S. Georges, "Voltage Regulation of Power Distribution Networks Interconnected With a Decentralized Photovoltaic Power Producer," The 2016 3rd International Conference on Renewable Energies for Developing Countries (REDEC), July 13 – 15, Zouk Mosbih, Lebanon, pp 1 – 6.
- Mougharbel, M. Saad, & S. Georges, "Useful Global Model for Charging/Discharging Plugin Electrical Vehicles in a Parking Lot", the International Conference on Sustainable Mobility Applications, Renewables and Technology (SMART2015), November 23-25, 2015, Kuwait.
- S. Georges, & F. Slaoui, "Modeling and Simulation of Heat Dissipation Due to HVDC Ground Electrodes Using the Finite Element Method", 2014 IEEE Innovative Smart Grid Technologies Conference, Kuala Lumpur, Malaysia, 20-23 May 2014
- F. Keyrouz, M. Hamad, & S Georges, "A novel unified maximum power point tracker for controlling a hybrid windsolar and fuel-cell system," in Proceedings of IEEE International Conference and Exhibition on Ecological Vehicles and Renewable Energies(EVER), Monaco, March 2013, pp.1 – 6.
- P. Hajje, N. Kanbar & S. Georges, "Case Study of Using LED Lamps As Energy Efficient Components." The International Conference on Renewable Energies for Developing Countries (REDEC 2012), Beirut, November 28 – 29, 2012.
- I. Mougharbel, Z. Chehab & S. Georges, "Simulation of a Hybrid Renewable Energy System in Rural Regions." Proceedings of the IEEE Industrial Electronics Conference (IECON 2012), Montreal, Canada, October 25 – 28, 2012.
- F. Keyrouz, M. Hamad & S. Georges, "Bayesian Fusion for Maximum Power Output in Hybrid Wind-Solar Systems." The 3rd International Symposium on Power Electronics for Distributed Generation Systems (PEDG), Denmark, June 28 29, 2011.
- F. H. Slaoui, S. Georges & F. Erchiqui, "Interpretation of Resistivity Sounding Data for Multi-Layer Vertical Earth Model". 21st International Conference on Systems Engineering (ICSEng 2011), Las Vegas, USA, August 16-18, 2011
- F. Keyrouz & S. Georges, "Efficient Multidimensional Maximum Power Point Tracking Using Bayesian Fusion" in Proceedings of IEEE International Conference on Electric Power and Energy Conversion Systems (EPECS'11), Sharjah, UAE, Nov. 2011.
- S. Georges, & F. H. Slaoui, "Case Study of Hybrid Wind-Solar Power Systems for Street Lighting", 21st International Conference on Systems Engineering (ICSEng 2011), Las Vegas, USA, August 16-18, 2011
- S. Georges, E. Sawma, B. Zeitoun, N. Harmouche & F. H. Slaoui, "Electromagnetic Induction in Pipelines Due to Overhead High Voltage Power Lines". Submitted to the IEEE 2010 International Conference on Power System Technology (POWERCON2010).
- I. Mougharbel, P. Assaf, H. Kanaan & S. Georges, "Voltage and Frequency Regulation in an Isolated Power Network Supplied with Wind Energy". Fifth International Conference and Exhibition on Ecological Vehicles and Renewable Energies (EVER'10), Monte-Carlo, Monaco March 25 28, 2010.
- F. H. Slaoui & S. Georges, "Calculation of the Apparent Resistivity in Vertically Multilayered Soil Models." The International Conference of Science and Technology for Development (IASTED 2010), Edmonton, Canada.
- H. Y. Kanaan, S. Georges, I. Mougharbel, N. Mendalek, & T. Nicolas, "Modeling, Control and Simulation of a High-Current DC-DC Converter for Fuel Cell Applications," International Conference on Renewable Energies and Power Quality (ICREPQ'09), Spain, 15-17 April, 2009.
- R. Tobji, C. Merheb, S. Georges, & G. Mitri, "A Numerical Technique for Parameters extraction of a p-n Junction Diode in the Presence of Parasitic Resistance", International Conference on Advances in Computational Tools for Engineering Applications (ACTEA'09), NDU-Louaize, Lebanon, 15-17 July, 2009.
- P.-M. Bougahrios, C. Habib, S. Georges, & M. Hamad, "Managing and Monitoring House Visits with Home Visitor Logger", International Conference on Advances in Computational Tools for Engineering Applications (ACTEA'09), NDU-Louaize, Lebanon, 15-17 July, 2009.
- B. El Hassan, C. El Moucary, & S. Georges, "Robust Watermarking Based on an Enhanced LSB-Substitution Method for Medical Applications", IMCL 2008 (Third International Conference on Interactive Mobile and Computer Aided Learning), 16-18April2008, Amman-Jordan.
- H.Y. Kanaan, S. Georges, N. Mendalek, A. Hayek & K. Al-Haddad, "A Linear Decoupling Control for a PWM Three-Phase Four wire Shunt Active Power Filter" The IEEE Proceedings of the 14th Mediterranean Electrotechnical Conference, Ajaccio, France, May, 2008
- H.Y. Kanaan, S. Georges, A. Hayek & K. Al-Haddad, "Frequency-Domain Small Signal Modeling of a Three-Phase four-Wire Shunt Active Power Filter". The Proceeding of the IEEE International Midwest Symposium on Circuits and Systems (MWSCAS 2007), Montreal, Canada, 2007
- A. Taok, N. Kandil, S. Affes & S. Georges, "Fingerprinting Localization Using Ultra-Wideband and Neural-Networks," The IEEE Proceedings of the International Symposium on Signals, Systems, and Electronics

- (ISSSE 2007) August 2007, Montréal.
- H.Y. Kanaan, S. Georges, A. Hayek & K. Al-Haddad, "Modeling and Comparative Evaluation of Control Techniques Applied to a PWM Three-Phase Four-Wire Shunt Active Power "The Proceedings of the 1st IEEE Conference on Industrial Electronics and Applications (ICIEA 2006), May 2006, Singapore
- H.Y. Kanaan, A. Hayek, S. Georges & K. Al-Haddad, "Switching-Functions Based Modeling, Simulation and Simple Control Design of a Three-Phase Four-Wire Shunt Active Power Filter for a 60kW Industrial Load". The Proceedings of the 3rd IEEE International Conference on Power Electronics, Machines and Drives (PEMD 2006), April, 2006, Clontarf Castle, Dublin, Ireland.
- N. Kandil, S. W Georges & M. Saad, "Rapid Power System Transient Stability Limit Search Using Signal Energy and Neural Networks", The IEEE Proceedings of the International Symposium on Industrial Electronics, Montreal, Canada, 2006
- S. Georges, "Automatic Speech Recognition Using MATLAB", The Proceedings of the IASTED International Conference on Circuits, Signals and Systems, November 28 – December 1, 2004, Clearwater Beach, Florida, USA, pp 40 – 43.
- Georges. S., Slaoui F., Lagacé P. J., Do X. D. & Fortin J., "Practical Case Study for Evaluating Grounding System Impedance of Near Salt Water Electric Power Installation", The Proceedings of the IEEE Power Engineering Society 2003 Summer Meeting, July, 2003, Toronto, Canada
- Georges. S., Slaoui F., Lagacé P. J., & Do X. D "Fast Processing of Resistivity Sounding Measurements of N-Layer Soil", IEEE Power Engineering Society, the Summer Meeting (2001), July, 2001, Vancouver, Canada.
- Slaoui F., Georges. S., Lagacé P. J., Do X. D. & Fortin J., "Interpretation des mesures de résistivité dans un sol multicouche", Troisième conférence internationale sur l'automatisation industrielle, June 1999, Montréal, Canada.
- Georges. S., Slaoui F., Lagacé P. J., Do X. D. & Fortin J., "Evaluation of the Effect of Salt Water and a Counterpoise on the Voltage Profile of a HV Power Transmission Line Grounding System in a Two Layer With High Resitivity Soil", The Proceedings of the IEEE Power Engineering Society 1999 Summer Meeting, July 1999, Edmonton, Alberta, Canada. pp. 1016 - 1021.
- Georges. S., Slaoui F., Lagacé P. J., Lavoie M. & Do X. D.,"Behavior of Neutral Impedance of a Power Transmission Line in Two Layer Soil Using Superconductive Return Plane in the Earth,"The Proceedings of the Fourth IEEE International Conference on Electronics, Circuits & Systems, December 1997, Cairo, Egypt, pp. 410 - 415.