Professor LI, XIAODONG

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**Academic Qualification**

* Ph.D., University of Victoria, Canada
* M.A.Sc., University of Victoria, Canada
* B.Eng., Shanghai Jiao Tong University, China

**Teaching Area**

* Circuit Analysis
* Circuit Analysis Lab
* Analog Electronics
* Analog Electronics Lab
* Advanced Topics in Electronics Engineering

**Research Area**

Power Electronics: high-frequency converter: topology, control and applications in renewable generation, transportation electrification

**Professional Services**

Chair, IEEE Macau Section, 2022-2026

**Working Experience**

* 2023-now: Assistant Dean, Faculty of Innovation Engineering
* 2019-now: Program Coordinator, School of Computer Science and Engineering
* 2009 - now: Lecturer/Assistant Professor/Associate Professor/Professor, Macau University of Science and Technology
* 2002-2009: Research Associate, University of Victoria, British Columbia, Canada
* 1994-2001: Electrical Engineer, HuaDian HongWan Diesel Power Co., ZhuHai, China

**Academic Publication Citation Information:**

* Google Scholar - [https://scholar.google.com/citations?hl=en&user=Y428tq0AAAAJ&view\_op=list\_works](%20https%3A/scholar.google.com/citations?hl=en&user=Y428tq0AAAAJ&view_op=list_works)
* MUST Scholar Database --- <https://scholar.must.edu.mo/scholar/100243>

**Academic Publication (selected)**

* S. Hu, C. Sun, R. Ding, X. Li, "Sinusoidal-Ripple-Current Charging Modulation for Semi-Dual-Active-Bridge AC-DC Converter with Full Soft Switching and Power Factor Correction", **IEEE Transactions on Circuits and Systems--II: Express Briefs**,71(1), 326-330, Jan. 2024, DOI: 10.1109/TCSII.2023.3303265.
* D. Xu, H. Chen, X. Wang, V. Pires, J. Martins, A. Anuchin, X. Li, R. Palka, J. Gu, "Coupling Analysis of Differential Power Processing-based PV system and its Decoupling Implementation of Synchronous MPPT Control". **IEEE Trans. on Industrial Electronics**, 70(7), pp. 6973-6983 2023, doi:10.1109/TIE.2022.3201277.
* S. Zhou, Y. Gong, X. Li, S. Hu and H. Chen, “Operation of a Semi Dual-bridge Resonant Converter with a Tunable Resonant Tank”, **International Journal of Electronics and Communications**, vol.152, July 2022,154261, https://doi.org/10.1016/j.aeue.2022.154261.
* H. Chen, J. Liu, X. Wang, X. Li, M. Orabi, Y. Li, Y. Gong, N. Parspour, J. Zhang. "A Novel Method to Suppress the Force Ripple of a Switched Reluctance Linear Motor", **IEEE Transactions on Industry Applications**, 58(4). pp. 4792-4803, 2022, doi: 10.1109/TIA.2022.3177398.
* F. Yu, H. Chen, W. Yan, V. Pires, J. Martins, P. Rafajdus, A. Musolino, L. Sani, M. P. Aguirre, M. A. Saqib, M. Orabi and X. Li, "Design and Multiobjective Optimization of A Double-stator Axial Flux SRM with Full-pitch Winding Configuration", **IEEE Trans. Transport. Electrific.**, vol.8, no.4, pp. 4348-4364 2022. DOI:10.1109/TTE.2022.3173938.
* S. Zhou, X. Li, H. Wang and P. Huang, “Modulation of a Semi Dual-Active-Bridge Resonant Converter with Soft-Switching and Zero Backflow Power”, **IET Power Electronics**,15, 515–530. (2022). https://doi.org/10.1049/pel2.12246.
* C. Fang, H. Chen, H. Torkaman, A. Anuchin and X. Li , “Fault Diagnosis for Power Transistors in a Converter of Switched Reluctance Motors Based on Current Features”, **IEEE Sensors Journal**, VOL. 22, NO. 2, 1414-1423, Jan. 15, 2022. DOI: 10.1109/JSEN.2021.3128487.
* H. Chen, R. Nie and X. Li, "A Transverse Flux Single-Phase Tubular Switched Reluctance Linear Machine with 4 poles," **IEEE Transactions on Applied Superconductivity**, 31(8), Art no. 0601704, Nov. 2021. doi: 10.1109/TASC.2021.3096514..
* S. Hu, X. Li, Q. Zheng, “A Dual-Bridge DC/DC Resonant Converter Using Extended PWM and Phase-shift Control”, **IEEE Transactions on Industry Applications,** 57(4), pp.4009-4020, 2021.
* S. Zhou, X. Li, Z.Zhong and X. Zhang, “Wide ZVS operation of a semi dual-bridge resonant converter under variable-frequency-phase-shift control”, **IET Power Electronics**, 13(9), p. 1746 –1755,2020.
* M. Lu, X. Li and G. Chen, “A Hybrid Control of a Semi Dual-Active-Bridge DC-DC Converter with Minimum Current Stress”, **IEEE Transactions on Power Electronics**, 35(3), pp.3085-3096, 2020..
* Y. Tang, X. Li, S. Zhou, C. Sun, G. Chen, “Comprehensive study of fast load modulation with volt-second balance in a dual-active-bridge converter”, **IET Power Electronics**, 12(6), pp: 1357-1367, 2019.
* S. Hu, X. Li, A.K.S. Bhat, “Operation of a Bidirectional Series-Resonant Converter With Minimized Tank Current and Wide ZVS Range”, **IEEE Transactions on Power Electronics**, 34(1), pp: 904-915, 2019.
* C. Sun, X. Li and S.-Z. Zhou, “Transient current control for a step load change in a dual-active-bridge converter”, **Electronics Letters**, 2018, 54(22), pp.1290-1292..
* X. Li, S. Hu, C. Sun and Y.-F. Zhang, “Asymmetric double-side modulation for fast load transition in a semi-dual-active-bridge converter”, **IET Power Electronics**, 10(13), pp:1698-1704, 2017..
* S.-T. Lin, X. Li, C. Sun and Y. Tang, “Fast transient control for power adjustment in a dual-active-bridge converter”, **Electronics Letters**, 53(16), 2017, pp.1130-1132..
* S. Hu, X. Li, “Performance evaluation of a semi-dual-bridge resonant dc/dc converter with secondary phase-shifted control”, **IEEE Transactions on Power Electronics**,32(10), 2017, pp.7727-7738..
* X. Li, "A LLC-type dual-bridge resonant converter: analysis, design, simulation and experimental results," **IEEE Transactions on Power Electronics**, 29(8), pp:4313-4321, 2014..
* X. Li and A.K.S. Bhat, “A Comparison Study of High-Frequency Isolated DC/AC Converter Employing an Unfolding LCI for Grid-Connected Alternative Energy Applications”, **IEEE Transactions on Power Electronics**, 29(8), pp:3930-3941, 2014.
* X. Li and Y.-F. Li, “An optimized phase-shift modulation for fast transient response in a dual-active-bridge converter," **IEEE Transactions on Power Electronics**, 29(6), pp:2661-2665, June 2014..
* X. Li and A.K.S. Bhat, “A Utility-interfaced phase-modulated High-Frequency Isolated Dual LCL dc/ac Converter”, **IEEE Transactions on Industrial Electronics**, 59(2), pages: 1008-1019, 2012.
* X. Li, Q. Wu, S. Nandi, “Performance Analysis of a Three-phase Induction Machine with Inclined Static Eccentricity”, **IEEE Transactions on Industry Applications**,43(2), pages:531-541, 2007.
* S. Nandi, H. Toliyat, X. Li, “Condition Monitoring and Fault Diagnosis of Electrical Machines - A Review”, **IEEE Transactions on Energy Conversion**, 20(4), pages:719-729, 2005.

**Patents**

* Xiaodong Li, Song Hu, "Battery charger with power factor correction", US patent no.: 9,515,504 B2, Australian Innovation Patent, No.2015100179.
* Xiaodong Li, "SYSTEM AND METHOD FOR CONTROLLING A CONVERTER CIRCUIT", US patent no.: 9,935,462 B2, Australian Innovation Patent, No.2016100074.
* Xiaodong Li, "CONVERTER CIRCUIT AND OPERATING METHOD THEREOF", Australian Innovation Patent, No.2016100186.
* Xiaodong Li, "Semi-Dual-Active-Bridge Converter System and Methods Thereof", US patent no.: 9,748,853 B1, Australian Innovation Patent, No.2016101962.
* Chuan Sun, Xiaodong Li, "Systems and method for controlling a converter circuit", US patent no.: 10,658,936 B2, Australian Innovation Patent, No.2017100494.

**Personal Award**s

* IPS(Industrial Postgraduate Scholarship) from NSERC (National Science and Engineering Research Council of Canada), 2006
* IEEE Power Engineering Society (PES) Best Paper Prize, 2007
* BOC Excellent Research Award in 2013.

**Student Awards**

* **The 11th China Graduate Electronics Design Contest, First-class award in South China Division, Second-class award in Final Tournament, 2016**
* **The 12th China Graduate Electronics Design Contest, First-class award in South China Division, 2017**
* **The 14th China Graduate Electronics Design Contest, First-class award in Final Tournament, 2019**
* **Dr. Song Hu, Graduate Research Award of Macau Science and Technology Award, 2018**

**Professional Society Membership**

Senior Member, IEEE