Mohammad Masoud Namazi

E-mail: mm.namazi@alumni.iut.ac.ir; masoudnamazi@gmail.com
Phone: 0989131107625

Education

- **Postdoctoral Researcher**, Sep. 2019 – Sep. 2020.
  Department of Electrical Engineering, University of Isfahan, Isfahan, Iran.
  Topic: Stabilization and Robust Control of Hybrid (Wind-PV-Battery) Renewable Energy System. Under supervision of Professor Hamid Reza Koofigar.

- **PhD** in Power Electronics and Electrical Drives. Sep. 2011 – June 2018**.**
  Department of Electrical and Computer Engineering, Isfahan University of Technology, Isfahan, Iran.
  PhD Thesis Topic: Modeling and Dynamic Performance Improvement of Switched Reluctance Generator-based DC Microgrids.
  Under supervision of Professor Sayed Morteza Saghaian-nejad.

- **Visiting Researcher**, Sep. 2014 – May 2015.
  Kyung-Sung University, Department of Mechatronics Engineering, Busan, South Korea,
  Research Title: Regenerative Braking in Electric Vehicles Based on Switched Reluctance Drive. Under supervision of Professor Jin-Woo Ahn.

- **M.Sc.** in Electrical Drives and Power Electronic. Department of Electrical and Computer Engineering, Isfahan University of Technology, Isfahan, Iran. Sep. 2008 – Feb. 2011.
  Thesis Topic: Speed Control of Switched Reluctance Motor Drive Considering Torque Ripple Minimization Using Nonlinear Energy-Based Control
  Under supervision of Professor Sayed Morteza Saghaian-nejad.

- **B.Sc.** In Electrical Engineering (Power), Department of Electrical Engineering, Shahed University, Tehran, Iran. Sep. 2004 – Sep. 2008.
  B.Sc. Project: Research on the Effect of Current Transformer Saturation on Induction Motor Differential Protection using ATP/EMTP.

Publication

Journal and Book:

1- **M. M. Namazi**, H. R. Koofigar and J. W. Ahn (February 12th 2020). Chattering-Free Robust Adaptive Sliding Mode Speed Control for Switched Reluctance Motor [Online First], IntechOpen, DOI: 10.5772/intechopen.91161.

2- **M. M. Namazi**, S. M. Saghaian-nejad, A. Tabesh, A. Rashidi and M. Liserre, "Passivity-based Control of Switched Reluctance-based Wind System Supplying Constant Power Load," *IEEE Transactions on Industrial Electronics*, vol. 65, no. 12, pp. 9550-9560, Dec. 2018. ISI Q1

3- **M. M. Namazi**, Hamid Reza Koofigar, J. W. Ahn, "Active Stabilization of Self-Excited Switched Reluctance Generator Supplying Constant Power Load in DC Microgrids," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 9, no. 3, pp. 2735 – 2744, 2021. ISI Q1

4- **M. M. Namazi**, A. Rashidi, S.M. Saghaian-nejad, J. W. Ahn, "Maximum power recovery of regenerative braking in electric vehicles based on switched reluctance drive," *Journal of Electrical and Engineering Technology (JEET).* vol. 13, no. 2, pp. 800-811, 2018. ISI Q2

5- E. Roshandel, **M. M. Namazi**, A. Rashidi, S. M. Saghaian-nejad and J. W. Ahn, "SSC strategy for SRG to achieve maximum power with minimum current ripple in battery charging," *IET Electric Power Applications*, vol. 11, no. 7, pp. 1205-1213, 2017. ISI Q2

6- **M. M. Namazi**, A. Rashidi, H. R. Koofigar, S.M. Saghaian-nejad, J. W. Ahn, "Adaptive Control of Switched Reluctance Motor Drives under Variable Torque Applications", *Journal of Electrical and Engineering Technology (JEET)*, vol. 12, no. 1, pp.134-144, 2017. ISI Q2

7- A. Rashidi, **M. M. Namazi**, S.M. Saghaian-nejad, D. H. Lee, J. W. Ahn, "Zero Torque Control of Switched Reluctance Motor for Integral Charging", *Transactions of the Korean Institute of Electrical Engineers*, vol. 66, no. 2, pp. 328-338, 2017.

8- **M. M. Namazi**, A. Rashidi S.M. Saghaian-nejad, "Energy-Based Adaptive Sliding Mode Speed Control For Switched Reluctance Motor Drive System", *Iranian Journal of Electrical & Electronic Engineering*, vol. 8, no. 1, 2012. ISC

9- W. He, **M. M. Namazi**, H. R. Koofigar, M. A. Amirian, J. M. Guerrero, "Voltage Regulation of Buck Converter With Constant Power Load in DC Microgrid: An Adaptive Power Shaping Control", *Control Engineering Practice*, vol. 115, 2021. ISI Q1

10- W. He, **M. M. Namazi**, H. R. Koofigar, M. A. Amirian, F. Blaabjerg, "Stabilization of DC–DC buck converter with unknown constant power load via passivity-based control plus proportion-integration", *IET Power Electronics*, vol. 14, no. 16, 2021. ISI Q1

11- W. He, **M. M. Namazi**, T. Li and R. Ortega, "A State Observer for Sensorless Control of Power Converters With Unknown Load Conductance," *IEEE Transactions on Power Electronics*, vol. 37, no. 8, pp. 9187-9199, Aug. 2022, doi: 10.1109/TPEL.2022.3157853. ISI Q1

12- W. He, **M. M. Namazi**, and J. M. Guerrero, "Adaptive Energy-Based Control for

Buck Converter with a Class of Nonlinear Loads," *IEEE Transactions on Circuits and Systems II: Express Briefs*, Early Access doi: 10.1109/TCSII.2022.3176258. ISI Q1

13- W. He, Y. Shang, **M. M. Namazi**, R. Ortega "Adaptive sensorless control for buck converter with constant power load" *Control Engineering Practice*, vol. 126, 2022. ISI Q1

14- W. He, X. Wang, **M. M. Namazi**, W. Zhou, J. M. Guerrero "A reduced-order adaptive state observer for DC–DC converters with unknown constant power load" *Control Engineering Practice*, vol. 143, 2024. ISI Q1

15- W. He, Y. Zhang, Y. Shang, **M. M. Namazi**, W. Zhou, J. M. Guerrero "Robust voltage regulation of DC-DC buck converter with ZIP load via an energy shaping control approach" Arxive, 2024, Early Access.

16- M. Mohammad, **M. M. Namazi** "Voltage Profile Enhancement through Smart Load-Based Electric Vehicle Charging Management" *Southern Communication Engineering*, Early Access.

Conference Papers:

17- **M. M. Namazi**, A. Rashidi, S. M. Saghaian-Nejad, D. H. Lee, J. W. Ahn, "Chattering-Free Robust Adaptive *Sliding*-mode Control for Switched Reluctance Motor Drive", *IEEE Transportation Electrification Conference and Expo Asia-Pacific (ITEC)*, Busan, Korea, pp. 474-478, June 2016.

18- **M. M. Namazi**, M. Mansouri, S. M. Saghaian-Nejad, A. Rashidi, J. W. Ahn, "Torque Ripple Reduction of Switched Reluctance Motor Drive with Adaptive Sliding mode Control and Particle Swarm *Optimization*", *IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM)*, South Korea, July 2015.

19- **M. M. Namazi**, S. M. Saghaian-Nejad, A. Rashidi, H. Abootorabi Zarchi, "Passivity-Based Adaptive Sliding Mode Speed Control of Switched Reluctance Motor Drive Considering Torque Ripple Reduction", *IEEE International Electric Machines and Drives Conference (IEMDC)*, Canada, pp.1480-1485, 15-18 May 2011.

20- E. Roshandel, **M. M. Namazi**, S. M. Saghaian-Nejad, J. W. Ahn, "A Step-up High-power-density DC/AC Converter to Drive Piezoelectric Transmitters", *IEEE International Conference on Electrical Machines and Systems (ICEMS 2018)*, South Korea, pp.688-692, October 2018.

21- A. Rashidi, **M. M. Namazi**, S. M. Saghaian-Nejad, D. H. Lee, J. W. Ahn, "PFC and Zero Torque Control of SRM Drive for EV Battery Charging", *IEEE Transportation Electrification Conference and Expo Asia-Pacific (ITEC)*, Busan, Korea, June 2016.

22- A. Rashidi, **M. M. Namazi**, S. M. Saghaian-Nejad, D. H. Lee, J. W. Ahn, "An optimized simple current sharing function of SRM with integrated battery charger for EV drive", *IEEE Transportation Electrification Conference and Expo Asia-Pacific (ITEC)*, Busan, Korea, June 2016.

23- E. Roshandel**, M. M. Namazi**, A. Rashidi, S. M. Saghaian-Nejad, J. W. Ahn, "A control approach to achieve maximum power with minimum current ripple for switched reluctance generator in battery charging application", *IEEE Transportation Electrification Conference and Expo Asia-Pacific (ITEC),* Busan, Korea, June 2016.

24- A. Rashidi, **M. M. Namazi**, S. M. Saghaian-Nejad, D. H. Lee, J. W. Ahn, "Zero Torque Control of Switched Reluctance Motors for Charging Reactor of Electric Vehicles", *IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM),* South Korea, July 2015.

25- A. Rashidi, **M. M. Namazi**, A. Bayat and S. M. Saghaian-Nejad, "Power Factor Improvement Using Current Source Rectifier with Battery Charging Capability in Regenerative Mode of Switched Reluctance Motor Drives", *21th Iranian Conference on Electrical Engineering (ICEE2013),* 14-16 May, 2013, Isfahan, Iran.

26- E. Darayabeigi, **M. M. Namazi,** A. Emanian, A. Rashidi, and S. M. Saghaian-Nejad "Torque ripple reduction of switched reluctance motor (SRM) drives, with emotional controller (BELBIC)", *Applied Power Electronics Conference and Exposition (APEC), Twenty-Seventh Annual IEEE,* USA, pp. 1528 – 1535, 5-9 Feb. 2012.

27- **Namazi M. M**., Saghaiannejad M., Rashidi A., "A New Adaptive and Robust Speed Controller for Reducing Torque Ripple of Switched Reluctance Motor", *18th International Conference on Electrical Engineering of Iran,* Isfahan, May 2010, pp. 1787-1792 (in Persian).

28- **Namazi M. M**., Rashidi A., Saghaiannejad M., "Modeling and Improving the Dynamic Performance of DC Microgrids Based on Switched Reluctance Generators in the Presence of Constant Power Load", *30th International Conference on Electrical Engineering of Iran*, Tehran, December 2015 (in Persian).

29- Rashidi A., Saghaiannejad M., **Namazi M. M**., "Simulation and construction of a 4 kW, four-phase switched reluctance motor drive system using TMS320F2812 digital signal processor", *18th International Conference on Electrical Engineering of Iran,* Isfahan, May 2010, pp. 1896-1901 (in Persian).

30- Rashidi A., Saghaiannejad M., **Namazi M. M**., "Improving the quality of the input current of a switched reluctance motor drive using a current rectifier", *18th International Conference on Electrical Engineering of Iran,* Isfahan, May 2010, pp. 1884-1889 (in Persian).

31- S. Bahman Ziari, H. Kofigar, **M. M. Namazi**, "Robust Control of an Off-Grid Hybrid Solar-Battery Energy System", *8th Annual Clean Energy Conference,* Babol Noshirvani University of Technology, Babol, May 2023 (in Persian).

32- M. Soltani, H. Kofigar, M. Niroumand, **M. M. Namazi**, "Stabilization of Boost Converter with Constant Power Loads with FCS-MPC Approach and Fuzzy Scheduling Structure*", 10th Iranian Conference on Renewable Energy and Distributed Generation*, Shahrood, Iran, March 15-16, 2022 (in Persian).

33- A. Panahipour, **M. M. Namazi**, "Stabilization of Boost Converter with Constant Power Loads with FCS-MPC Approach and Fuzzy Scheduling Structure*", 10th Iranian Conference on Renewable Energy and Distributed Generation*, Shahrood, Iran, March 15-16, 2022 (in Persian).

Honors and Educational Presentations

- Distinguished Student Award, Isfahan University of Technology, 2013.
- Second prize in the eleventh festival of inventive students of Isfahan universities, Iran, 2013.
- Acceptance in entrance examination of one of the best graduate technical universities of Iran, 2008.
- Ranked 2nd among high school graduate students, 2003.
- Bond-graph theory for physical system modeling, Mathematic Department of Isfahan University of Technology, 2016.
- Dirac Structures and Port-controlled Hamiltonian Systems, Mathematic Department of Isfahan University of Technology, 2018.
- Control of Switched Reluctance Motor Drives using DSP-based Implementation, Electrical and Computer Engineering Department of Isfahan University of Technology, 2011.
- Electric Traction Systems, Electrical and Computer Engineering Department of Isfahan University of Technology, 2010.

Teaching and Review Experiences

- Electric Machinery, 2009-2020
- Generalized Theory of Electric Machines, 2010 – 2012
- Electric Circuits fundamentals, 2011-2020
- Electric Machines Lab, 2010-2020
- Digital Design Lab., 2010-2012
- Reviewer, IEEE Transactions on Industrial Electronics
- Reviewer, IEEE Transactions on Power Electronics
- Reviewer, IEEE Access
- Reviewer, Control Engineering Practice
- Reviewer, Applied Soft Computing
- Reviewer, ISA Transactions
- Reviewer, International Journal of Industrial Electronics, Control and Optimization
- Member, Institute of Electrical and Electronics Engineers (IEEE)
- Member, IEEE Young Professionals
- Member, IEEE Industrial Electronics Society (IES)

Skills and Experimental Experiences

- High experience with C2000 DSPs (TMS320F2812 and F28335), MSP430 and ARM STM32 Programming.
- Professional with the following software: ,Keil uVision, Code Composer Studio (CCS), MATLAB /SIMULINK, Proteus, Altium, PSIM, EMTP, PSCAD, Orcad.

- Design and Implementation of 1.2 kW Hot-plug Switch-mode Modular Industrial Fast Charger
- Implementation of 20kW PMSG-based Wind-Turbine Control System
- Implementation of 2.8kW Smart Power Distribution Unit
- Implementation of 6kW Modular Resonant Battery-Charger Unit
- Implementation of 4kW DSP-based SRM Drive
- Implementation of 3.3kW PMSM Sensorless Drive using Third Harmonic Back-EMF Method.
- Implementation of 4kW DC Drive Speed Control.
- Implementation of Advanced Controllers on Switching DC-DC Converters: Interleaved Synchronous Buck, Boost, Phase-shifted Full-bridge, and Buck-Boost Converters
- Power Quality and Ferroresonance Analysis of Isfahan Power Grid, Isfahan Regional Electric Company, Iran.
- Member of Iranian Wind Energy Association

References

- Prof. Marco Liserre,

  Christian-Albrechts University of Kiel, 24118 Kiel, Germany

  (e-mail: ml@tf.uni-kiel.de).

- Prof. Jin-Woo Ahn

  Mechatronic Department, Kyungsung University, Busan, Korae

  (e-mail: jwahn@ks.ac.kr)