



## Hamidreza Mohammadi

Associate Professor

College: Faculty of Electrical and Computer Engineering

Department: Electrical Engineering - Power

### Education

Degree	Graduated in	Major	University
BSc	1993	Electrical Engineering-Control	Sharif University of Technology
MSc	1995	Electrical Power Engineering	University of Tabriz
Ph.D	2008	Electrical Power Engineering	Tarbiat Modares University

### Employment Information

Faculty/Department	Position/Rank	Employment Type	Cooperation Type	Grade
Power Engineering Department	Associate Professor	Tenured	Full Time	24

### Work Experience

2009 to 2011: Head of Electrical Engineering Department, University of Kashan, Kashan, Iran.

2011 to 2013: Vice Chancellor in Planning and Development Affairs, University of Kashan, Kashan, Iran.

2014 to 2018: Head of Electrical Power Engineering Department, University of Kashan, Kashan, Iran.

2020 to 2023: Research Vice Chancellor of the Faculty of Electrical and Computer Engineering, University of Kashan, Kashan, Iran.

2023 to present: Vice Chancellor in Planning, Digital Evolution, and Strategic Supervision, University of Kashan, Kashan, Iran.

## Course Topics

### Under Graduate:

Electric Circuits I and II  
Electronics I and II  
Industrial Electronics  
Fundamental of Electrical Engineering  
Linear Control Systems

### Graduate:

Power Electronics  
Power Quality

### Papers in Conferences

- 
1. Reza Mirzadarani , Hamid Reza Mohammadi , Abbas Ketabi , Seyed Reza Motahari ,Phase-Shift Fixed-Frequency LCLC Resonant Converter: Analysis of Operational Modes and Mitigation of Parallel Capacitance of Output Diodes ,11th Smart Grid Conference (SGC2021) ,2021 12 07.
  2. Ali Akhavan , Hamid Reza Mohammadi , Juan C. Vasquez , Josep M. Guerrero ,Stability Improvement of Converter-side Current Controlled Grid-Connected Inverters ,IECON2019Annu ,2019 10 14.
  3. M. Ghomi, H.R. Mohammadi, H. R. Karami, C. L. Bak, F. F. da Silva, H. Khazraj ,Full-Wave Modeling of Grounding System: Evaluation The Effects of Multi-Layer Soil and Length of Electrode on Ground Potential Rise ,IPST2019 ,Perpignan, France ,2019 06 20.
  4. A. Fakhrian, B. Ganji, H. R. Mohammadi, H. Samet ,De-rating of Transformers under Non-sinusoidal Loads: Modeling and Analysis ,IEEE Conference on Environment and Electrical Engineering (EEEIC2019) ,Genoa, Italy ,2019 06 11.
  5. R. Mirzadarani, A. Ketabi, H. R. Mohammadi, S. R. Motahari ,Analytical Design and Simulation for Switching Transformer in High-Voltage Applications ,PEDSTC2018 ,Tehran ,2018 02 13.
  6. M. H. Mahlooji, H. R. Mohammad, M. Rahimi ,Comparison of single loop based control strategies for a grid connected inverter in a photovoltaic system ,PEDSTC2016 ,Tehran ,2016 2 16.
  7. H. R. Mohammadi, A. Akhavan ,A New Adaptive Selective Harmonic Elimination Method for Cascaded Multilevel Inverters Using Evolutionary Methods ,IEEE International Symposium on Industrial Electronics (ISIE2014) ,Istanbul, Turkey ,2014 06 01.
  8. S. Falahati, H. R. Mohammadi, A. Ketabi S. M. Motiee rad ,A new method for load sharing among distributed generation resources ,4th IEEE Power Electronics, Drive Systems & Technologies Conference (PEDSTC2013) ,Tehran, Iran ,2013 02 13.
  9. H. R. Mohammadi, S. Falahati, M. Zeraati ,A new method for Selective Harmonic Elimination in Voltage Source Inverter using Imperialist Competitive Algorithm ,3rd IEEE Power Electronics, Drive

Systems & Technologies Conference (PEDSTC2012) ,Tehran, Iran ,2012 02 03.

10. H. R Mohammadi, A. Yazdian Varjani, M. Nayeripour ,Fast and Accurate Frequency and Harmonic Estimation Method for On-Line Application in Power System ,POWERENG 2007 ,Setubal, Portugal ,2007 04 12.

## Papers in Journals

---

1. Analytical estimation of parasitic capacitances in high-voltage switching transformers,IET Power Electronics,2020.
2. Elham Samavati ,& Hamid Reza Mohammadi,An improved method for harmonic mitigation and stability improvement of the grid-connected inverters under local load variation and weak grid condition,Electrical Power and Energy Systems,2020.
3. A. Akhavan, H. R. Mohammadi, Juan C. Vasquez, Josep M. Guerrero,Passivity-Based Design of Plug-and-Play Current-Controlled Grid-Connected Inverters,IEEE Transactions on Power Electronics,2019.
4. Elham Samavati ,& Hamid Reza Mohammadi,Simultaneous voltage and current harmonics compensation in islanded/grid-connected microgrids using virtual impedance concept,Sustainable Energy, Grids and Networks,2019.
5. Ali Akhavan , Hamid Reza Mohammadi , Juan C. Vasquez , Josep M. Guerrero,Coupling effect analysis and control for grid-connected multi-microgrid clusters,IET Power Electronics,2019.
6. Hamid Rahimi Esfahani, Abbas Ketabi, Hamid Reza Mohammadi, Mohsen Rahimi Kelishadi,Using VBR model in fixed speed wind turbines and suggesting a new method for improving LVRT capability,Computational Intelligence in Electrical Engineering,2019.
7. M. H. Mahlooji, H. R. Mohammadi, M. Rahimi,A review on modeling and control of grid-connected photovoltaic inverters with LCL filter,Renewable & Sustainable Energy Reviews,2018,ISI ,SCOPUS.
8. A. Akhavan, H. R. Mohammadi, Josep M. Guerrero,A comprehensive control system for multi-parallel grid-connected inverters with LCL filter in weak grid condition,Electric Power Systems Research,2018,ISI ,SCOPUS.
9. A. Akhavan, H. R. Mohammadi, Josep M. Guerrero,Modeling and design of a multivariable control system for multi-paralleled grid-connected inverters with LCL filter,Electrical Power and Energy Systems,2018,ISI ,SCOPUS.
10. A. Akhavan, H. R. Mohammadi,A New Control Method for Grid-Connected Quasi-Z-Source Multilevel Inverter Based Photovoltaic System,Scientia Iranica,2015,ISI ,SCOPUS.
11. A. Akhavan, H. R. Mohammadi,A New Control Method for Grid-Connected PV System Based on Quasi-Z-Source Cascaded Multilevel Inverter Using Evolutionary Algorithm,International Journal of Power Electronics and Drive System,2015,Scopus.
12. A. Akhavan, H. R. Mohammadi,Parameter Estimation of Three-Phase Induction Motor Using Hybrid of Genetic Algorithm and Particle Swarm Optimization,Journal of Engineering,2014,Scopus.
13. A. Akhavan, H. R. Mohammadi,Adaptive Selective Harmonic Elimination Method for Quasi Z-Source Cascaded Multilevel Inverters in Varying DC Voltage Condition,Trends in electrical engineering,2014.
14. H. R. Mohammadi A. Yazdian, H. Mokhtari,A Novel Flexible Control Strategy for Unified Power Quality Conditioner,Iranian Journal of Electrical and Computer Engineering,2013,Scopus.
15. H. R. Mohammadi A. Yazdian, H. Mokhtari,Multiconverter Unified Power Quality Conditioning System: MC-UPQC,IEEE Transaction on Power Delivery,2009.
16. H. R. Mohammadi, S. H. Hosseini,Neural network implementation of a three phase regulated PWM AC to DC converter with input unbalance correction,International Journal of Engineering,1996,ISI ,SCOPUS.
17. Mohammad M. Rahimian, Hamid Reza Mohammadi, Josep M. Guerrero,Constant Power Load Issue in DC/DC Multi-Converter Systems: Past Studies and Recent Trends,Electric Power Systems Research,2024 07 02.
18. Fatemeh Keramati, Hamid Reza Mohammadi, Gholam Reza Shiran,Determining Optimal Location

and Size of PEV Fast-Charging Stations in Coupled Transportation and Power Distribution Networks Considering Power Loss and Traffic Congestion,Sustainable Energy, Grids and Networks,2024 01 05.

19. Elham Samavati ,& Hamid Reza Mohammadi,Active Harmonic Compensation and Stability Improvement in High Power Grid-Connected Inverters Using Unified Power Quality Conditioner,International Journal of Industrial Electronics, Control and Optimization (IECO),2023 09 01.

20. Hamid Sadeghi ,& Hamid Reza Mohammadi,An Improved Fuzzy Controlled Back-to-Back Electric Spring Using Hybrid Structure of ES-1 and Shunt-APF to Improve Power Quality in Microgrids,International Journal of Industrial Electronics, Control and Optimization (IECO),2022 03 01.