

	<h2 style="color: blue;">Dr. Mohsen Hasan Babayi Nozadian</h2> <p style="color: blue;">Birth Date: January 1, 1991</p> <p style="color: red;"><i>Assistant Professor in Bu-Ali Sina University</i></p> <p style="color: red;"><i>Ph.D. of Electrical Engineering, University of Tabriz, Iran</i></p> <p style="color: red;"><i>Member of the National Elites Foundation</i></p> <p style="color: red;"><i>Member of the Department of Talented Students Affairs of the University of Tabriz</i></p> <p style="color: red;"><i>Head of the Department of Electrical Engineering in Afagh Higher Education Institute</i></p>		
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Educational Background

Certificate Degree	Field of Specialization	Name of Institution Attended	Date Started	Date Graduated
Diploma	Math. & Physics	Andishe Borna High School, Urmia, Iran	23-Sep-2005	20-Jun-2008
B.Sc.	Electronics Engineering	University of Urmia, Tabriz, Iran	23-Sep-2009	19-Aug-2013
M.Sc.	Electrical Engineering	University of Tabriz, Tabriz, Iran	23-Sep-2013	8-June-2015
Ph.D.	Electrical Engineering	University of Tabriz, Tabriz, Iran	23-Sep-2015	28-July-2019

Theses

Thesis Type	Thesis Title	Grade
B.Sc.	Capacitor placement in radial system	20 out of 20
M.Sc.	Analysis and simulation of cascaded switched boost Z-source inverter	20 out of 20
Ph.D.	Improved Topologies for Switched Z-source Inverters	20 out of 20

Research Interests

Analysis, modelling, design, and Control of Power Electronic Converters (dc/dc; dc/ac; ac/ac; ac/dc; Matrix Converters; Multilevel Inverters; Z-Source Inverters; Resonance Converters; ...)
Renewable Energy Sources
Reliability in Power Systems
Power Quality in Power Systems

Mastering Softwares

Microsoft Office PSCAD/EMTDC MATLAB/Simulink DIALux Mathematica

Awards, Honorary Degrees, Medals and Positions

No.	Title of Award, Medal, Position	Issuing Authority	Country	Year
1	B.Sc. Degree, First Class Honor	University of Urmia	Iran	2013
2	Admission to a Master's degree using quota of the Department of Talented Students Affairs	University of Tabriz	Iran	2013
3	Publish Paper Among Top 100 Magazines: <i>IEEE Trans. Ind. Electron.</i> , VOL. 63, NO. 6, PP. 3546-3553, JUNE 2016.	The Institute of Electrical and Electronics Engineers (IEEE)	USA	2016
4	Education prize and research prize from the National Elites Foundation	University of Tabriz	Iran	2016
5	Reviewer in top Journals: <i>IEEE Transactions on Industrial Electronics</i>	The Institute of Electrical and Electronics Engineers (IEEE)	USA	2016
6	Reviewer in top Journals: <i>IEEE Transactions on Power Electronics</i>	The Institute of Electrical and Electronics Engineers (IEEE)	USA	2017
7	Reviewer in top Journals: <i>Journal of Emerging and Selected Topics in Power Electronics</i>	The Institute of Electrical and Electronics Engineers (IEEE)	USA	2017
8	Education prize and research prize from the National Elites Foundation	University of Tabriz	Iran	2017
9	Education prize and research prize from the National Elites Foundation	University of Tabriz	Iran	2018
10	Reviewer in top Journals: <i>IET Power Electronics</i>	The Institution of Engineering and Technology is registered as a Charity in England & Wales (IET)	England	2019
11	Reviewer in top Journals: <i>IEEE Transactions on Power Systems</i>	The Institute of Electrical and Electronics Engineers (IEEE)	USA	2019
12	Elected in the Grand Student Scientific Award (Ali Polad Award)	University Of Tabriz	Iran	2020
13	Elected as top PhD graduated	National Elites Foundation	Iran	2020
14	Tehrani Mogaddam prize from the National Elites Foundation	National Elites Foundation	Iran	2020

Membership in Scientific Associations

No.	Name of Institution/Association	Position	Country	Date	
				From	To
1	Department of Talented Students Affairs of the University of Urmia	Member	Iran	2010	2014
2	Department of Talented Students Affairs of the University of Tabriz	Member	Iran	2016	present
3	National Elites Foundation	Member	Iran	2016	present
3	IEEE	Student Member	USA	18-Feb-2017	18-Feb-2019
4	IEEE, Power Electronics Society	Senior Member	USA	18-Feb-2017	18-Feb-2019
5	IEEE, Industrial Electronics Society	Member	USA	18-Feb-2017	18-Feb-2019

Membership in Technical Program Committee of National and International Conferences

No.	Name of Institution/Association	Position	Country	Year
1	5th International Conference on Electrical Engineering (ELE 2018) http://cosit2018.org/ele/programcommitte.html	Program Committee Members	UAE	Feb. 24-25, 2018
2	2024 International Conference on Energy Engineering and Energy Management https://icecem.easyaca.com.cn/page/433.html	Technical Program Committee	Wuhan - China -	Oct 19-20 2024
3	2024 International Conference on Artificial Intelligence and Smart Transportation Systems Technology https://aists.easyaca.com.cn/page/379.html	Technical Program Committee	Shanghai- China -	Oct 19-20 2024
4	2024 International Conference on Power and Clean Energy https://pce.easyaca.com.cn/	Technical Program Committee	Beijing - China	Nov 23-24 2024

Teaching at Universities and Higher Education Institutions

No.	Name of Institution/Association	Date	
		From	To
1	University of Tabriz	2016	2018
2	Urmia University of Technology	Jan-2017	June-2017
3	Kamal Higher Education Institutions	Sep-2016	present
3	Elm va Fan Kamal Higher Education Institutions	2017	2018
4	Department of Electrical and Computer Engineering, Faculty of Ghazi Tabatabai, Urmia Branch, Technical and Vocational University (TUV),	Jan-2018	Feb-2023
5	Afagh Higher Education Institutions	Sep-2018	Feb-2023
6	Bu-Ali Sina University	Feb-2023	present

Teaching Experiences

Level	Title of Course
M.Sc and PhD	Power Quality
	Power Electronic I
	Power system Dynamic
	Reliability
B.Sc.	Electrical Machinery I and II
	Industrial Electronics/ Power Electronics & Lab
	Electrical Circuits I and II
	Engineering Math
	Electrical installation
	Renewable Energies
	Lab of System and Linear Control
	Power Systems Analysis I
	Lab of Power Systems Analysis
Relay and Protection	
Advanced Diploma	DC Machinery
	AC Machinery
	3phase Machinery
	Industry Control
	Relay and Protection
	Industrial Electronics

Citation Indices (According to Google Scholar Report on 04-Nov-2023)

Citations Indices	All	Since 2013
Citations	466	385
h-index	7	7
I10-index	7	7

Administrative and Management Background

Job Title	Name of Institution	Dates	
		From	To
Head of the Department of Electrical Engineering	Afagh Higher Education Institute	Sep-2018	Feb-2023
Head of Entrepreneurship and Innovation Center	Afagh Higher Education Institute	Sep-2021	Feb-2023
Electrical Project Manager	Araz Hefaz Niroo Company	2019	2022
Research and Development Manager	Tosee Nirogahi Tavan Gostran Ofog Company (TNTGO)	2019	present
Assistant Professor in Electrical Department	Bu-Ali Sina University	Feb-2023	present

Research Activities

No.	Title of Project	Place of Work	Dates	
			From	To
1	Improved Topologies for Switched Z-source Inverters	Niroo Research Institute (NRI) - Iran	17-Feb-2018	28-Jul-2019

Published Journals

1. E. Babaei, **M. Hasan Babayi**, E. Shokati Asl, and S. Laali “A new topology for Z-source inverter based on switched-inductor and boost Z-source inverter,” *Journal of Operation and Automation in Power Engineering*, vol. 3, no. 2, pp. 167-184, Autumn 2015. **(ISC-ranked)**
2. E. Babaei, E. Shokati Asl, and **M. Hasan Babayi**, “Steady-state and small-signal analysis of high voltage gain half-bridge switched-boost inverter,” *IEEE Trans. Ind. Electron.*, vol. 63, no. 6, pp. 3546-3553, June 2016. **(ISI-ranked and Top 25% of JCR)**
3. **M. Hasan Babayi Nozadian**, M. Shadnam Zarbil and M. Abapour, “The Effect of Series and Shunt Redundancy on Power Semiconductor Reliability”, *Journal of Power Electronics*, ., vol. 16, no. 4, pp. 1426-1437, July 2016. **(ISI-ranked)**
4. E. Babaei, E. Shokati Asl, **M. Hasan Babayi**, and S. Laali, “Developed embedded switched-Z-source inverter,” *IET Power Electronics*, vol. 9, no. 9, pp. 1828-1841, July 2016. **(ISI-ranked)**
5. **M. Hasan Babayi Nozadian**, E. Babaei, S.H. Hosseini, and E. Shokati Asl, “Steady-state analysis and design considerations of high voltage gain switched Z-source inverter with continuous input current,” *IEEE Trans. Ind. Electron.*, vol. 64, no. 7, pp. 5342-5350, July 2017. **(ISI-ranked and Top 25% of JCR)**
6. **M. Hasan Babayi Nozadian**, E. Babaei, “Analysis and Simulation of Multi-Stage Boost Z-Source Inverter,” *Journal of Iranian Association of Electrical and Electronics Engineers (JIAEEE)*, vol. 15, no. 1, pp. 75-87, Spring 2018. **(ISC-ranked)**
7. E. Shokati Asl, E. Babaei, M. Sabahi, **M. Hasan Babayi Nozadian**, and C. Cecati, “New half-bridge and full-bridge topologies for switched-boost inverter with continuous input current,” *IEEE Trans. Ind. Electron.*, vol. 65, no. 4, pp. 3188-3197, April 2018. **(ISI-ranked and Top 25% of JCR)**
8. E. Babaei, **M. Hasan Babayi Nozadian**, and E. Shokati Asl, “Basic and Quasi Structures of Step-up Switched Based dc/dc Converter: Steady-State Analysis and Design in different operating modes,” *Journal of Circuits, Systems, and Computers*, vol. 27, no. 5, pp. 1850069(1-24), 2018. DOI: <http://dx.doi.org/10.1142/S021812661850069X> **(ISI-ranked)**
9. **M. Hasan Babayi Nozadian**, E. Babaei, and S.H. Hosseini “High step-up single-phase switched Z-source inverter: steady state analysis and cost evaluation” *IET Power Electronics*, vol. 12, no. 4, pp. 639-647, April 2019. **(ISI-ranked)**
10. M. Alizadeh Pahlavani and **M. Hasan Babayi Nozadian**, “High step-up active Z-source dc/dc converters; analyses and control method” *IET Power Electronics*, vol. 12, no. 4, pp. 790-800, April 2019. **(ISI-ranked)**
11. **M. Hasan Babayi Nozadian**, E. Babaei, and S.H. Hosseini “Class of High Step-up Switched Z-Source Inverters: Steady State Analysis and Objective Function” *IET Power Electronics*, vol. 12, no. 6, pp. 1329-1340, May 2019. **(ISI-ranked)**
12. **M. Hasan Babayi Nozadian**, E. Babaei, S.H. Hosseini, and E. Shokati Asl “Switched Z-Source Networks: A Review” *IET Power Electronics*, vol. 12, no. 7, pp. 1616-1633, June 2019. **(ISI-ranked)**
13. G.A. Alizadeh, T. Rahimi, **M. Hasan Babayi Nozadian**, P. Sanjeevikumar, Z. Leonowicz. “Improving microgrid frequency regulation based on the virtual inertia concept while considering communication system delay”.*Energies*, vol. 12, no. 10, pp. 2016, April 2019. **(ISI-ranked)**
14. **M. Hasan Babayi Nozadian**, E. Babaei, and S.H. Hosseini “Effect of different PWM control methods on behavior of the series modified switched boost inverter” *IET Power Electronics*, in press 2019. doi: [10.1049/iet-pel.2018.5748](https://doi.org/10.1049/iet-pel.2018.5748) **(ISI-ranked)**
15. **M. Hasan Babayi Nozadian**, E. Babaei, and E. Shokati Asl “A New Control Method for Half Bridge Z-Source Inverters with Capability to Generate Low Frequency Output Voltage,” *Journal of Iranian Association of Electrical and Electronics Engineers (JIAEEE)*, vol. 15, no. 1, pp. 75-87, Spring 2018. **(ISC-ranked)**
16. G.A. Alizadeh, T. Rahimi, **M. Hasan Babayi Nozadian**, P. Sanjeevikumar, Z. Leonowicz. “Improving the frequency fluctuations attenuation of microgrid by determining optimal communication system delay and virtual inertia values”.*Journal of Control*, vol. 14, no. 4, pp. 119-131, winter 2021. **(ISI-ranked)**
17. H. Mashinchi Maheri, D. Vinnikov, **M. Hasan Babayi Nozadian**, E. Shokati Asl, E. Babaei, and A. Chub. “An Embedded Half-Bridge Γ -Z-Source Inverter with Reduced Voltage Stress on Capacitors”.*Energies*, vol. 14, no. 19, pp. 6433, Oct. 2021. **(ISI-ranked)**

Published Conference Papers

1. M. Shadnam Zarbil, **M. Hasan Babayi** “Calculation of reliability in multi-level power electronic converters, theory and application” *1st national conference of new approaches in electrical and computer engineering in 2016 (in Persian)*.
2. **M. Hasan Babayi Nozadian**, F. Ebrahimzadeh, E. Babaei and E. Shokati Asl, “Current-fed switched Z-source inverters,” in *Proc. ECTI-CON*, 2017, Phuket, Thailand, pp. 769-772.
3. **M. Hasan Babayi Nozadian**, E. Babaei, S. H. Hosseini and V. Ranjbarizad, “Embedded current-fed switched-Z-source inverters,” in *Proc. ELECO*, 2017, Bursa, Turkey, pp. 295-299.

- 4 **M. Hasan Babayi Nozadian**, E. Babaei, V. Ranjbarizad and C. Cecati, “Analysis and design of switched-boost inverter in CCM, DCM and BCM operations,” in *Proc. IECON*, 2017, Beijing, China, pp. 8015-8020.
- 5 **M. Hasan Babayi Nozadian**, E. Babaei and V. Ranjbarizad, “Steady state analysis of dual switched boost inverter,” in *Proc. CPE-POWERENG*, 2018, Doha, Qatar, pp. 1-6.
- 6 Gh. Alizadeh, **M. Hasan Babayi Nozadian** “Series Z-source inverter based on AVNPC multi-level converter for PV systems” *5th national conference on electrical engineering, computer and information technology, Pardis Ize, Tehran, Iran, 2018 (in Persian)*.