Curriculum Vitae

Mohsen Parsa Moghaddam

Professor

Electrical Engineering (Power Systems)

Faculty Member of Tarbiat Modares Univesity, Tehran, Iran, Since 1988

Date of Birth: 15. Nov. 1956

Education:

B.Sc. in Electrical Engineering, Sharif University of Technology, Iran, 1980

M.Sc. in Electrical Engineering, Toyohashi University of Technology, Japan, 1985

Ph.D. in Electrical Engineering, Tohoko University, Japan, 1988

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✓ Honors

- Prominent professor of research in electrical engineering, IEEE, 2022
- Among top 1% highly cited researcher of the world, Thomson Reuters ESI-ISI, 2023
- Among top 1% highly cited researcher of the world, Thomson Reuters ESI-ISI, 2022
- Among top 1% highly cited researcher of the world, Thomson Reuters ESI-ISI, 2021
- Among top 1% highly cited researcher of the world, Thomson Reuters ESI-ISI, 2020

- Among top 1% highly cited researcher of the world, Thomson Reuters ESI-ISI, 2019
- Among top 1% highly cited researcher of the world, Thomson Reuters ESI-ISI, 2017
- Among top 1% highly cited researcher of the world, Thomson Reuters ESI-ISI, 2016
- Among top 1% highly cited researcher of the world, Thomson Reuters ESI-ISI, 2015
- IEEE senior member, since 2015

✓ **Research Interests**

- Future Grids
- Smart Grids
- Microgrids and Local Energy Networks
- Energy Management
- Integration of Renewable Energy in Power System
- Planning and Operation of Power Systems
- Eletrical Energy Storage
- Data Science Application in Power Systems

✓ **Courses Taught**

- Smart Grids
- Energy Management
- Modern Control Systems
- Optimization in Power Systems
- Computer Application in Power Systems
- Renewable Energy
- Design of Power Systems Control Centers
- Power System Dynamics
- Power System Analysis

✓ Books:

[1] **M. P. Moghaddam**, R. Zamani, H. H. Alhelou, and P. Siano, "Decentralized Frameworks for Future Power Systems: Operation, Planning and Control Perspectives". *Academic Press, Elsevier*, 2022.

✓ Journal Papers:

[1] M. Alikhani, **M. P. Moghaddam**, F. Moazzen, A. Azadi, "Optimal implementation of consumer demand response program with consideration of uncertain generation in a microgrid". *Electric Power Systems Research*, 2023.
[2] A. Mansoori, **M. P. Moghaddam**, H. Delkhosh, "A Hybrid Stochastic-Robust Approach for Power System Security-Constrained Scheduling in the Presence of Flexibility Facilities". *IEEE Transactions on Power Systems*, 2023.
[3] H. Eskandari, M. Imani, and **M. P. Moghaddam**, "Power grid stability identification using high discriminative factors". *International Journal of Electronics Letters*, no. 2, vol. 11, pp. 193-202, 2023.
[4] H. Eskandari, M. Imani, and **M. P. Moghaddam**, "Best-tree wavelet packet transform bidirectional GRU for short-term load forecasting". *The Journal of Supercomputing*, pp. 1-33, 2023.
[5] M. Moradi, **M. P. Moghaddam**, R. Zamani, and M. K. Sheikh-El-Eslami, "A novel community-based local electricity market for multiple communities with joint energy trading considering the risk of participation". *ET Generation, Transmission & Distribution*, no. 5, vol. 17, pp. 1148-1165, 2023.
[6] M. Taghavi, H. Delkhosh, and **M. P. Moghaddam**, A. S. Fini, "Hosting capacity enhancement of hybrid AC/DC distribution network based on static and dynamic reconfiguration". *IET Generation, Transmission & Distribution*, 2023.
[7] Y. Allahvirdizadeh, H. Shayanfar, and **M. P. Moghaddam**, "Stochastic expansion planning of transmission system and energy hubs in the presence of correlated uncertain variables". *IET Generation, Transmission & Distribution*, no. 4, vol. 17, pp. 911-946, 2023.
[8] M. M. Larimi, **M. P. Moghaddam**, and M. Shahabi, "Optimal Economic Operation of Flexible Combined Heating, Cooling and Power System". *Engineering and Energy Management*, no. 3, vol. 3, pp. 2-13, 2023.
[9] R. Keshvari, M. Imani, and **M. P. Moghaddam**, "Short Term Load Forecasting Using Empirical Mode Decomposition, Wavelet Transform and Support Vector Regression". *Signal and Data Processing*, no. 3, vol. 19, pp. 35-48, 2022.
[10] L. Saberi, M. I. Alizadeh, **M. P. Moghaddam**, S. Bahramara, and P. Sheikhahmadi, "Optimal scheduling of flexible ramp product and emerging flexible resources considering short-term variability impacts in power system with high RESs penetration: A novel robust UC approach". *International Journal of Electrical Power & Energy Systems*, 2022.
[11] Y. Allahvirdizadeh, H. Shayanfar, and **M. P. Moghaddam**, " A tri-level approach for coordinated transmission and distribution system expansion planning considering deployment of energy hubs." *IET Generation, Transmission & Distribution*, no.19, vol. 16, pp. 3966-4006,2022.
[12] M. Taghavi, H. Delkhosh, and **M. P. Moghaddam**, A. S. Fini, "Combined PV-Wind Hosting Capacity Enhancement of a Hybrid AC/DC Distribution Network Using Reactive Control of Convertors and Demand Flexibility.". *Sustainability*, no. 13, vol. 14, pp. 1-28, 2022.
[13] A. Mansoori, A. S. Fini, and **M. P. Moghaddam**, "Day-Ahead Generation Scheduling of Power System in Presence of Fast Generation Resources under Uncertainty of Renewable Generation Units.". *Energy Engineering & Management*, no. 1, vol. 12, pp. 76-85, 2022.
[14] Y. Allahvirdizadeh, S. Galvani, H. Shayanfar, and **M. P. Moghaddam**, " Risk-averse scheduling of an energy hub in the presence of correlated uncertain variables considering time of use and real-time pricing-based demand response programs." *Energy Science & Engineering*, no. 4, vol. 10, pp. 1343-1372, 2022.
[15] R. Zamani, **M. P. Moghaddam**, and M. R. Haghifam, "Dynamic Characteristics Preserving Data Compressing Algorithm For Transactive Energy Management Frameworks". *IEEE Transactions on Industrial Informatics*, vol. 18, pp. 7587 - 7596, 2022.
[16] M. Alikhani, **M. P. Moghaddam**, and F. Moazzen, "Optimal demand response programs selection using CNN-LSTM algorithm with big data analysis of load curves". *IET Generation, Transmission & Distribution*, 2022.
[17] F. P. Sioshansi, R. Zamani, and **M. P. Moghaddam**, " Energy transformation and decentralization in future power

systems." *Decentralized Frameworks for Future Power Systems*,Elsevier , pp. 1 - 18, 2022.
[18] **M. P. Moghaddam**, S. Nasiri, and M. Yousefian, " 5D Giga Trends in future power systems." *Decentralized Frameworks for Future Power Systems*,Elsevier , pp. 19 - 50, 2022.
[19] Y. Allahvirdizadeh, H. Shayanfar, and **M. P. Moghaddam**, "Coordinated multi-stage expansion planning of transmission system and integrated electrical, heating, and cooling distribution systems." *IET Renewable Power Generation*, 2022.
[20] A. Mansoori, A. S. Fini, and **M. P. Moghaddam**, "Robust Operation Planning With Participation of Flexibility Resources Both on Generation and Demand Sides Under Uncertainty of Wind-based Generation Units". *Iranian Journal of Electrical and Electronic Engineering*, pp. 2079-2079, 2022.
[21] R. Zamani, **M. P. Moghaddam**, and M. R. Haghifam, "Evaluating the impact of connectivity on transactive energy in smart grid". *IEEE Transactions on Smart Grid*, vol. 13, pp. 2491 - 2494, 2021.
[22] R. Zamani, **M. P. Moghaddam**, H. Panahi, and M. Sanaye-Pasand, "Fast Islanding Detection of Nested Grids Including Multiple Resources Based on Phase Criteria". *IEEE Transactions on Smart Grid*, vol. 12, pp. 4962 - 4970, 2021.
[23] M. Mahzarnia, **M. P. Moghaddam**, and M. R. Haghifam, "A novel three-stage risk-based scheme to improve power system resilience against hurricane". *Computers & Electrical Engineering*, vol. 93, 2021.
[24] S. Allahmoradi, **M. P. Moghaddam**, S. Bahramara, and P. Sheikhahmadi, "Flexibility-constrained operation scheduling of active distribution networks". *International Journal of Electrical Power & Energy Systems*, vol. 131, 2021.
[25] A. Mansoori, A. S. Fini, and **M. P. Moghaddam**, "Power System Robust Day-ahead Scheduling with the Presence of Fast-Response Resources Both on Generation and Demand Sides under High Penetration of Wind Generation Units". *International Journal of Electrical Power & Energy Systems*, vol. 131, 2021.
[26] H. Eskandari, M. Imani, and **M. P. Moghaddam**, "Convolutional and recurrent neural network based model for short-term load forecasting". *Electric Power Systems Research*, vol. 195, 2021.
[27] M. Khodadadi, M. E. H. Golshan, and **M. P. Moghaddam**, "Non-Cooperative Operation of Transmission and Distribution Systems". *IEEE Transactions on Industrial Informatics*, 2020.
[28] M. Mahzarnia, **M. P. Moghaddam**, P. Siano, and M. R. Haghifam, "A comprehensive assessment of power system resilience to a hurricane using a two-stage analytical approach incorporating risk-based index", *Sustainable Energy Technologies and Assessments*, vol. 42, 2020.
[29] R. Tahmasebifar, **M. P. Moghaddam**, M. K. Sheikh-El-Eslami, and R. Kheirollahi, "A new hybrid model for point and probabilistic forecasting of wind power. Energy", vol. 211, 2020.
[30] M. Moradijoz, S. Moradijoz, **M P. Moghaddam**, and M.R. Haghifam, "Flexibility Enhancement in Active Distribution Networks through a Risk-based Optimal Placement of Sectionalizing Switches.", *Reliability Engineering & System Safety*, vol. 201, 2020.
[31] Y. Allahvirdizadeh, H. Shayanfar, and **M. P. Moghaddam**, " A comparative study of PI, fuzzy-PI, and sliding mode control strategy for battery bank SOC control in a standalone hybrid renewable system." *International Transactions on Electrical Energy Systems*, , no. 2, vol. 30, 2020.
[32] H. H. Alhelou, M. E. H. Golshan, N. D. Hatziargyriou, and **M. P. Moghaddam**, " A Novel Unknown Input Observer-based Measurement Fault Detection and Isolation scheme for Micro-Grid Systems." *IEEE Transactions on Industrial Informatics*, 2020.
[33] M. Mahzarnia, **M. P. Moghaddam**, P. Teimourzadeh Baboli, and P. Siano, " A review of the measures to enhance power systems resilience." *IEEE Systems Journal*, 2020.
[34] R. A. Mehrabadi**, M. P. Moghaddam**, and M. K. Sheikh-El-Eslami, " Generation expansion planning in multi electricity markets considering environmental impacts." *Journal of Cleaner Production*, , vol. 243, 2020.
[35] R. A. Mehrabadi, **M. P. Moghaddam**, and M. K. Sheikh-El-Eslami. "Regulatory-intervented sustainable generation expansion planning in multi-electricity markets." *Sustainable Cities and Society*, vol. 52, 2020.
[36] F. Moazzen, M. Alikhani, **M. P. Moghaddam**, and M. Gitizadeh. "Optimal DRPs selection using a non-linear model based on load profile clustering." *IET Generation, Transmission & Distribution*, vol. 13, pp. 5493-5503, 2019
[37] Y. Allahvirdizadeh, **M. P. Moghaddam**, and H. Shayanfar. "A survey on cloud computing in energy management of the smart grids." *International Transactions on Electrical Energy Systems*, no. 10, vol. 29, 2019.
[38] H. Jalili, M. K. Sheikh-El-Eslami, **M. P. Moghaddam**, and P. Siano. "Modeling of demand response programs based on market elasticity concept." *Journal of Ambient Intelligence and Humanized Computing*, vol. 10, pp. 2265-2276, 2019.
[39] S. Karamdel, and **M. P. Moghaddam**. "Robust expansion co-planning of electricity and natural gas infrastructures

for multi energy-hub systems with high penetration of renewable energy sources." *IET Renewable Power Generation*, vol. 13, pp. 2287-2297, 2019.

[40] M. Moradijoz, J. Heidari, **M. P. Moghaddam**, and M. R. Haghifam. "Electric vehicle parking lots as a capacity expansion option in distribution systems: a mixed-integer linear programing-based model." *IET Electrical Systems in Transportation*, no. 1, vol. 10,pp. 13-22, 2019.

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Distribution, vol. 10, pp. 1842-1852, 2016.
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distribution system considering social and urban factors," *Energy,* vol. 60, pp. 53-61, 2013.
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