

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, 2015-2024
- IEEE senior member, since 2015

✓ Research Interests

- Future Power Systems
- Smart Grids
- Microgrids and Local Energy Networks
- Energy Management
- Integration of Renewable Energy in Power System
- Planning and Operation of Power Systems
- Electrical 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.
- [2] **M. P. Moghaddam**, "Technologies and Design Principles of Combined Heat and Power (CHP) Systems". *Publications of the Iranian Energy Efficiency Organization (IEEO)*, 2011.

✓ Journal Papers:

- [1] R. Zamani, **M. P. Moghaddam**, M. R. Haghifam, "Network Sustainability Enhancement Through Optimal Fairness Management for Peer-to-Peer Energy Trading". *IEEE Transactions on Smart Grid*, 2025.

- [2] M. Hashemnezhad, H. Delkhosh, **M. P. Moghaddam**, "Aggregator pricing strategy for community energy management based on multi-agent reinforcement learning considering costumer loss or gain". *Sustainable Energy, Grids, and Networks*, 2024.
- [3] 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.
- [4] 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.
- [5] 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.
- [6] 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.
- [7] 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.
- [8] 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.
- [9] 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.
- [10] 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.
- [11] 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.
- [12] L. Saberi, M. I. Alizadeh, **M. P. Moghaddam**, S. Bahramara, and P. Sheikahmadi, "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.
- [13] 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.
- [14] 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.
- [15] 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.
- [16] 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.
- [17] 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.
- [18] 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.
- [19] 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.
- [20] **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.
- [21] 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.

- [22] 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.
- [23] 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.
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- [25] 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.
- [26] S. Allahmoradi, **M. P. Moghaddam**, S. Bahramara, and P. Sheikhamadi, "Flexibility-constrained operation scheduling of active distribution networks". *International Journal of Electrical Power & Energy Systems*, vol. 131, 2021.
- [27] 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.
- [28] 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.
- [29] M. Khodadadi, M. E. H. Golshan, and **M. P. Moghaddam**, "Non-Cooperative Operation of Transmission and Distribution Systems". *IEEE Transactions on Industrial Informatics*, 2020.
- [30] 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.
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- [35] 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.
- [36] 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.
- [37] 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.
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- [39] 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.
- [40] 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.
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- participation in the capacity market." *International Transactions on Electrical Energy System*, no. 9, vol. 29, 2019.
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○ **MSC. Students:**

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