# Curriculum Vitae

**Mahdi Samadi**

**Associate Professor**

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https://scholar.google.com/citations?hl=en&user=1V3cXrMAAAAJ&view_op=list_works


## Research Experience and Interests

- Operation, planning and economics of power systems
- Demand response programs analysis
- Multi carrier energy systems

## Education

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| **2013** | **Ph.D.,** Electrical Engineering (power system), Ferdowsi University of Mashhad, Mashhad, Iran. **Thesis**: *Modeling demand response in generation capacity investment planning and analysis of its long term effects* (**Supervisor**: Prof. M.H. Javidi) |
| **2008** | **M.Sc.** Electrical Engineering (power system), Ferdowsi University of Mashhad, Mashhad, Iran. **Thesis**: *Dynamic transmission expansion planning in deregulated power system* (**Sup.**: Prof. Javidi) |
| **2005** | **B.Sc.** Electrical Engineering, Shahed University, Tehran, Iran. **Project**: *Design of smart lighting system using ultrasonic sensors* |

## Honors and Awards

- **Top Researcher** award in *Department of Electrical and Computer Engineering*, Hakim Sabzevari University, **2020**
- **Top educational teacher** award in *Department of Electrical and Computer Engineering*, Hakim Sabzevari University, **2016** and **2017**
- **Ranked 1st** among students of M.Sc., **2005-2008,** (GPA: 18.13/20)
- **Ranked 1st** among students of B.Sc., **2001-2005,** (GPA: 17.70/20)

## Publications:

### A. Journal Papers

1. **M. Samadi**, M. Aghamohamadi and A. Mahmoudi, "Optimal Time Period Clustering of Time-of-use Schemes Based on Elastic Loads' Responsiveness", *International Transactions on Electrical Energy Systems*, vol. 30, no. 4, pp. 1-20, April **2020.**

2. S. S. Saghravanian, **M. Samadi** and M.E. Hajiabadi, "Evaluating the market power and coalition formation in double-sided power market: An analytical decomposition approach", *International Journal of Electrical Power & Energy Systems, (IJEPES)*, vol. 118, June **2020**.

3. **M. Samadi**, K. Karami Nezhad, and E. Zakikhani, "Optimal Design of an Interruptible Load Program from the Viewpoint of an Industrial Customer", *International Journal of Industrial Electronics, Control and Optimization*, vol. 3, no. 3, pp. 301-311, **2020**.

4. **M. Samadi** and M.E. Hajiabadi, "Assessment of the Collusion Possibility and Profitability in the Electricity Market: A New Analytical Approach", *International Journal of Electrical Power & Energy Systems (IJEPES)*, vol. 112, pp. 381-39, November **2019.**

5. M.E. Hajiabadi, S. Saghravaniyan, M.M. Borhan Elmi and **M. Samadi**, "Determination of consumer satisfaction level in double-sided power market: An analytical decomposition approach", *Sustainable Energy, Grids and Networks*, vol. 17, March **2019**.

6. M. Aghamohamadi, **M. Samadi** and M. Pirnahad, "Modeling and Evaluating the Energy Hub Effects on a Price Responsive Load", Iranian Journal of Electrical & Electronic Engineering (IJEEE), vol. 15, no. 1, pp. 65-75, **2019**.

7. M.E. Hajiabadi and **M. Samadi**, "LMP Share: New Structural Market Power Index", *Journal of Modern Power Systems and Clean Energy*, vol. 7, no. 6, pp. 1709–1720, November **2019.**

8. M. Aghamohamadi, **M. Samadi** and I. Rahmati, "Energy Generation Cost in Multi-energy Systems; an Application to a Non-merchant Energy Hub in Supplying Price Responsive Loads", *Energy*, vol. 161, 15 pp. 878-8, **2018**.

9. M. Aghamohamadi, M.E. Hajiabadi and **M. Samadi**, "A novel approach to multi energy system operation in response to DR programs; an application to incentive-based and time-based schemes", *Energy*, vol. 156, pp. 534-547, August **2018**.

10. **M. Samadi**, M.H. Javidi and S. Ghazizadeh, "Modeling the effects of demand response on generation expansion planning in restructured power systems", *Journal of Zhejiang University-SCIENCE C (Computers & Electronics)*, vol. 14, no. 12, pp: 966-976, **2013**.

## B. Conference Papers

11. **M. Samadi**, M.E. Hajiabadi and M. Aghamohamadi, "Proposing New Analytical Competitiveness Indices to Assess Total Electricity Market Deviation Possibility," *IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES)*, Jaipur, India, pp. 1-5, **2020**.

12. **M. Samadi** and S. Yousefzadeh, "Optimal Scheduling of Interconnected Energy Hubs Considering Responsive Loads," *28th Iranian Conference on Electrical Engineering*, *IEEE*, Tabriz, Iran, pp. 1-5, **2020.**

13. **M. Samadi**, A. Ghaznavi, M.E. Hajiabadi, I. Nikoofekr, M. yeylaghi, "Proposing New UFLS Schemes to Model the Iran Grid Management Co. (IGMC) constraints Considering Three Main Aspects: Load Shedding, Frequency and Geographical Distribution", *34th Power System Conference*, *IEEE*, Tehran, Iran, **2019**.

14. M.E. Hajiabadi, H. Ghanbari and **M. Samadi**, "Comprehensive Review of Literature on the Statistical Behaviors of Electric Vehicle Aggregators (EVAs): Modelling the Pdf of Power Production of EVA Using Classic CLT, *24th Electrical Power Distribution Conference*, *IEEE*, Khoramabad, Iran, **2019**.

15. H. Lotfi, A. Dadpour and **M. Samadi**, "Solving economic dispatch in competitive power market using improved particle swarm optimization algorithm", *Conference on Electrical Power Distribution Networks Conference*, *IEEE*, Semnan, Iran, **2017**.

16. **M. Samadi** and M.E. Hajiabadi, "A New Model for Generation Capacity Investment Considering Renewable Energy Resource", *Smart Grids Conference*, *IEEE*, Kerman, Iran, Dec. **2016**.

17. H. Lotfi, **M. Samadi** and A. Dadpour, "Optimal Capacitor Placement and Sizing in Radial Distribution System Using an Improved Particle Swarm Optimization Algorithm", *21st Electrical Power Distribution Conference*, *IEEE*, Karaj, Iran, May **2016**.

18. **M. Samadi**, M.H. Javidi and M.S. Ghazizadeh, "The Effect of Time-Based DR Program on LDC and Reliability of Power System", *21st Iranian Conference on Electrical Engineering*, *IEEE*, Mashhad, Iran, May **2013**.

## C. Journal Papers (In Persian):

- M.E. Hajiabadi, H Ghanbari, **M Samadi**, "Analytical and Statistical Analysis of the Effect of Electric Vehicle Aggregator on the Stochastic Behavior of LMP Using LMP Decomposition", *Iranian Electric Industry Journal of Quality and Productivity*, vol. 9, no. 4, pp. 1-12, **2020**.
- E. Zakikhani, **M. Samadi**, ME Hajiabadi, "An Analytical Model to Evaluate the Effects of Wind Turbine Parameters and the Probabilistic Characteristic of Wind Speed on the Average LMP of the Power Market", Journal of Modeling in Engineering, vol. 18, no. 2, pp. 1-13, **2020**.
- S.J. Hoseini, **M. Samadi**, "Risk Level Assessment of the Power Supply Network Against Various Threats", *Journal Of Passive Defence Science And Technology*, vol. 10, no. 3, pp. 267-277, **2019**.
- **M. Samadi**, M.H. Javidi and M.S. Ghazizadeh, "Dynamic Modeling of Investment on GEP Considering Demand Response", *Iranian Electric Industry Journal of Quality and Productivity,* vol. 1, no. 2, pp. 49-57, **2013.**
- **M. Samadi**, M.H. Javidi, J. Sadeh, "Long Term Weighted Modeling for Transmission Expansion Planning in Deregulated Power Systems", *Journal of Iranian Association of Electrical and Electronics Engineers,* vol. 8, no. 1, pp. 49-56, **2011**.

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**Note**: In addition, 20 conference papers published in *Persian* language.

## Industrial Research Projects

- "Optimal placement of under_frequency load shedding (UFLS) relays in the Khorasan network", *Khorasan Regional Electric Company (KREC)*, Iran, (**2018-2019**).
- "Optimal location of Reclosers and Sectionalizers in the power distribution network", North *Khorasan electric distribution company (NKEDC)*, Iran, (**2019-2020**).
- "Optimal location and adjustment of Reclosers, Sectionalizers and Cut-out fuses in the power distribution network considering the historical data of equipment failures", *Khorasan Razavi electric distribution company (KREDC)*, Iran, (**2020-2021**).
- "Dynamic transmission expansion planning in deregulated power system, case study: Khorasan network", *Khorasan Regional Electric Company (KREC)*, Iran, (**2008**).
- "A study of methods to calculate outage costs from the perspective of consumers, investors and the government", *KREC*, Iran, (**2009**).
- "Evaluating the proposed plan (flexible demand) from the cement factory viewpoint as an industrial customer and providing an appropriate approach to increase the customer motivation", *KREC*, Iran, (**2010**).
- "Optimal bidding strategy in the power exchange market", *KREC*, Iran, (**2011**).

## Supervised Theses

❖ **20 MSc.** students and **1 PhD.** student.

## Teaching Experience

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| **Graduated Courses** | • Power System Operation<br>• Power System Planning<br>• Optimization: Principles and Algorithms |
| **Undergraduate Courses** | • Electrical Circuits I<br>• Electrical Circuits II<br>• Power System Analysis I<br>• Power System Analysis II<br>• Engineering Economics<br>• High Voltage Engineering and Insulating Materials |