

In The Name of God

Seyed Hamed Delkhosh

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Education:

- ❖ **Ph.D:** Electrical Engineering _ Power Systems
Tarbiat Modares University _ (2015 – 2020)
- ❖ **M.Sc:** Electrical Engineering _ Power Systems
Sharif University of Technology (SUT) _ (2013 – 2015)
- ❖ **B.Sc:** Electrical Engineering _ Power Systems
Amirkabir University of Technology (AUT) _ (2009 – 2013)

Research Interests:

- ❖ Power system cyber-physical security
- ❖ Power system frequency control
- ❖ Operation and control of power system
- ❖ Power system optimization
- ❖ Renewable energies and DGs
- ❖ Operation and control of microgrids

Courses:

- ❖ Power system optimization
- ❖ Renewable energies
- ❖ Power system operation
- ❖ Power system planning
- ❖ Energy Sources and Consumptions

Honors:

- ❖ Ranked 5th, 10th, 257th and in the Iranian nation-wide (Konkooor) B.Sc., M.Sc., and Ph.D. university entrance exams

Industrial Work Experiences:

- ❖ **Tarbiat Modares University - Iran Power System Engineering Research Center (IPSERC)**
Project manager _ 2015 – now

| Project | Organization | Position | Time (Months) |
|--|---|-------------------|---------------|
| Designing a test system for Iranian power grid electricity market | Iran Grid Management Company (IGMC) | Project manager | 2022 (18) |
| Methodology research for power grid operating system localization | | | 2020 (15) |
| Research and implementation of AGC for the Iranian power grid | | | 2018 (21) |
| Extended cyber attack-defense test-bed involving EMS functionalities | Tavanir Company | | 2022 (24) |
| Developing the state estimator cyber attack-defense test-bed | | | 2019 (30) |
| Security assessment of TREC power grid in mid-term horizon | Tehran Regional Electric Company (TREC) | | 2023 (12) |
| Expansion planning of TREC power grid in long-term horizon | | | 2024 (12) |
| Research on Primary Frequency Control (PFC) of the Iranian grid | Iran Grid Management Company (IGMC) | Senior researcher | 2016 (18) |
| Developing standards and instructions for measuring and monitoring | | | 2016 (19) |
| Research on Iranian power wholesale market and proper solutions | | | 2016 (20) |
| Adequacy and security assessment of Tehran transmission system | Regional Electric Companies (TREC and HREC) | | 2015 (23) |
| Voltage assessment and capacitor placement for Hormozgan grid | | | 2015 (18) |
| Small-signal stability analysis for Hormozgan transmission system | | | 2015 (18) |

- ❖ **Niroo Research Institute (NRI) - Power system monitoring and control**
Senior researcher _ 2016 – 2019

| Project | Organization | Position | Time (Months) |
|--|-------------------------------------|-------------------|---------------|
| Research on future of transmission control centers and presenting suggestions for the Iranian power grid | Iran Grid Management Company (IGMC) | Senior researcher | 2018 (18) |
| Research, development and implementation of the Iranian Own-Built Control Center (IOBCC) program | | | 2016 (24) |

Books:

- **H. Delkhosh**, and M. Jorjani, 2022. Green approaches for future power systems. Book chapter in Decentralized frameworks for future power systems. Elsevier.
- H. Seifi, and **H. Delkhosh**, 2019. Model validation for power system frequency analysis. Springer.

Journal Papers:

- M. Pazoki, M.K. Sheikh-EL-Eslami, and **H. Delkhosh**, 2024. Integrating the Dynamic Frequency Security in The Real-Time Scheduling Considering the Accurate Models and Network Constraints. *Electrical Engineering*, pp.1-21.
- A. Mansoori, M. Parsa Moghaddam, and **H. Delkhosh**, 2023. A Hybrid Stochastic-Robust Approach for Power System Security-Constrained Scheduling in the Presence of Flexibility Facilities. *IEEE Transactions on Power Systems*.
- S. Nasiri, H. Seifi, and **H. Delkhosh**, 2023. A Secure Power System Distributed State Estimation via a Consensus-Based Mechanism and a Cooperative Trust Management Strategy. *IEEE Transactions on Industrial Informatics*.
- M. Taghavi, **H. Delkhosh**, M. Parsa Moghaddam and A. Sheikhi Fini, 2023. Hosting capacity enhancement of hybrid AC/DC distribution network based on static and dynamic reconfiguration. *IET Generation, Transmission & Distribution*.
- M. Nozarian, H. Seifi, M.K. Sheikh-EL-Eslami, and **H. Delkhosh**, 2023. Hydro thermal unit commitment involving demand response resources: a MILP formulation. *Electrical Engineering (Springer)*, 105(1), pp.175-192.
- **H. Delkhosh**, and H. Seifi, 2022. Economic valuation of power grid frequency security and the participants share specification. *IEEE Transactions on Power Systems*, 38(2), pp.1487-1500.
- M. Taghavi, **H. Delkhosh**, M. Parsa Moghaddam and A. Sheikhi Fini, 2022. Combined PV-wind hosting capacity enhancement of a hybrid AC/DC distribution network using reactive control of convertors and demand flexibility, *Sustainability (MDPI)*, 14(13), p.7558.
- T. HajiAbdollah, H. Seifi, and **H. Delkhosh**, 2022. Detection and mitigation of a combined cyber attack on automatic generation control. *Iranian Journal of Electrical and Computer Engineering (IJECE)*, 95(2), p.121.
- M. Jorjani, H. Seifi, A. Yazdian, and **H. Delkhosh**, 2021. An optimization-based approach to recover the detected attacked grid variables after false data injection attack. *IEEE Transactions on Smart Grid*, 12(6), pp.5322-5334.
- M. Sajjadi, H. Seifi, and **H. Delkhosh**, 2021. A new approach for system-wide power system frequency model validation via measurement data. *Engineering Reports (Wiley)*, p.e12446.
- **H. Delkhosh**, and M. Parniani, 2021, A new method for performance evaluation of wind turbines and wind farms using extended capacity factor – case study of Manjil wind farm, *Iranian Journal of Electrical and Computer Engineering (IJECE)*. 19(3), pp.167-179.

- **H. Delkhosh**, and H. Seifi, 2020. Power system frequency security index considering all aspects of frequency profile. *IEEE Transactions on Power Systems*, 36(2), pp.1656-1659.
- **H. Delkhosh**, and H. Seifi, 2020. Technical valuation of generating units for participating in primary frequency control. *International Journal of Electrical Power & Energy Systems*, 118, p.105826.
- **H. Delkhosh**, and H. Seifi, 2019. Quantitative model validation from the frequency perspective considering governor frequency ramp rate and activity range. *International Journal of Electrical Power & Energy Systems*, 107, pp.668-679.

Conference Papers:

- M. Azimi, **H. Delkhosh**, M. Ghaedi, and H. Seifi, 2023. A bi-level attack-defense model for the forecasting false data injection attacks on the integrated energy systems. In 2023 31th Iranian Conference on Electrical Engineering (ICEE) (pp. 1-6). IEEE.
- P. Ramezanzadeh, **H. Delkhosh**, and M. Parsa Moghaddam, 2023. Forecasting the PV panel power based on image processing and historical outputs. In 2023 10th Iranian Conference on Renewable Energy & Distributed Generation (ICREDG) (pp. 1-5). IEEE.
- A.M. Moradpour, M.H. Alizadeh, and **H. Delkhosh**, 2023. A new method based on symbolic regression to detect the probability of false data injection attacks on PV generation. In 2023 13th Smart Grid Conference (SGC), (pp. 1-7.) IEEE.
- M. Ghaedi, N. Eslamina, **H. Delkhosh**, and M. Parsa Moghaddam, 2022. A defensive approach against pricing false data injection attacks based on incentive-based demand response and network reconfiguration. In 2022 12th Smart Grid Conference (SGC) (pp. 1-6). IEEE.
- **H. Delkhosh**, H. Seifi, S. Gholamnejad, and M. Yousefian, 2022. A technical-managerial framework for determining periodic performance indices and operating ranges of power grid frequency. In 2022 30th Iranian Conference on Electrical Engineering (ICEE). IEEE.
- M. Hasani, MK. Sheikh-El-Eslami, and **H. Delkhosh**, 2022. A linear model for wind farms preventive maintenance scheduling considering the wind speed uncertainty and electricity market conditions. In 2022 9th Iranian Conference on Renewable Energy & Distributed Generation (ICREDG). IEEE.
- S. Nasiri, H. Seifi, and **H. Delkhosh**, 2021. Voltage sag monitoring with limited measurements based on sparse optimization. In 2021 11th Smart Grid Conference (SGC) (pp. 1-7). IEEE.
- M. Nozarian, H. Seifi, MK Sheikh-El-Eslami, and **H. Delkhosh**, 2021, Cascaded hydro and thermal unit commitment in day-ahead energy market considering demand response (in Farsi). In 2021 7th International Conference and Energy Technology and Management (IEANC)
- **H. Delkhosh**, M. Parsa Moghaddam, and M. Ghaedi, 2020. Multi-objective sizing of energy storage systems (ESSs) and capacitors in a distribution system. 10th Smart Grid Conference (SGC). IEEE.
- **H. Delkhosh**, M. Seydali, and H. Seifi, 2016. Application of bat optimization algorithm in optimal power flow. 24th Iranian Conference on Electrical Engineering (ICEE) (pp. 793-798). IEEE.