

Morteza Nazari-Heris

M.Sc. in Electrical Engineering, University of Tabriz

Phone Number: +98 914 901 44 12

E-Mail: mnazari.heris@gmail.com

Date of Birth: 28 July 1993



Education:

- 2015-2017 **M.Sc. in Electrical Engineering, University of Tabriz**
- 2011-2015 **B.Sc. in Electrical Engineering, University of Tabriz**

Research Interests:

- Optimization
- Demand side management
- Energy management
- Zero energy buildings
- Renewable energy
- Heuristic optimization methods

Master Thesis:

- **Optimal short-term scheduling of combined heat and power (CHP) units**

Supervisors: Dr. Behnam Mohammadi-Ivatloo, Dr. Gevork B. Gharehpetian

Bachelor Thesis:

- **Optimal placement of phasor measurement units to attain power system observability**

Supervisor: Dr. Behnam Mohammadi-Ivatloo

Skills:

- MATLAB Simulation and Simulink
 - GAMS
 - C/C++ Programming
 - PSCAD
 - DIgSILENT
 - LATEX
 - Python
 - PVSyst
-

Academic Experience:

- 2015-2017 Teacher Assistant in Faculty of Electrical Engineering, University of Tabriz
 - 2017-present Research Assistant in Faculty of Electrical Engineering, University of Tabriz
-

Teaching Experience:

Teaching Assistant: (University of Tabriz, Faculty of Electrical Engineering)

- Spring 2017 Electrical Circuit

Teaching: (University of Tabriz, Scientific Electrical Association)

- Spring 2017 GAMS
-

Honors and Awards:

- 2016 Selected as the best master student of University of Tabriz
 - 2015 Selected as the best bachelor student of University of Tabriz
 - 2018 Selected as the best master thesis in Smart Grids Conference 2018
 - 2016 Selected as the best bachelor thesis in Smart Grids Conference 2016
 - 2015 Ranked 59th among more than 20000 electrical engineering students in the entrance exam for M.Sc. degree
 - 2018 Placing in the top 1% of reviewers in Engineering based on Publons' global reviewer database
 - 2018 Outstanding contribution in reviewing for Applied Soft Computing
-

Publications (ISI Papers):

- [1] **M. Nazari-Heris**, B. Mohammadi-Ivatloo, G. B. Gharehpetian and M. Shahidehpour "Robust Short-Term Scheduling of Integrated Heat and Power Microgrids." *IEEE Systems Journal* 99 (2018): 1-9. **Impact factor: 4.337**
- [2] **M. Nazari-Heris**, S. Abapour, and B. Mohammadi-Ivatloo, "Optimal Economic Dispatch of FC-CHP based Heat and Power Micro-grids", *Applied Thermal Engineering* 114 (2017): 756-769. **Impact factor: 4.771**
- [3] **M. Nazari-Heris**, B. Mohammadi-Ivatloo, and G. B. Gharehpetian "A Comprehensive Review of Heuristic Optimization Algorithms for Optimal Combined Heat and Power Dispatch from Economic and Environmental Perspectives." *Renewable and Sustainable Energy Reviews* (2017). **Impact factor: 9.184**
- [4] **M. Nazari-Heris**, B. Mohammadi-Ivatloo, and G. B. Gharehpetian. "Short-term scheduling of hydro-based power plants considering application of heuristic algorithms: A comprehensive review." *Renewable and Sustainable Energy Reviews* 74 (2017): 116-129. **Impact factor: 9.184**
- [5] **M. Nazari-Heris**, and B. Mohammadi-Ivatloo. "Application of heuristic algorithms to optimal PMU placement in electric power systems: An updated review." *Renewable and Sustainable Energy Reviews* 50 (2015): 214-228. **Impact factor: 9.184**
- [6] **M. Nazari-Heris**, B. Mohammadi-Ivatloo, S. Asadi, and Z. Woo Geem. "Harmony Search Algorithm for Energy System Applications: An Updated Review and Analysis." *Journal of Experimental & Theoretical Artificial Intelligence*, accepted for publication (2018). **Impact factor: 1.011**
- [7] **M. Nazari-Heris**, M. Mehdinejad, and B. Mohammadi-Ivatloo, and G. B. Gharehpetian, "Combined heat and power economic dispatch problem solution by implementation of whale optimization method." *Neural Computing and Applications* (2017): 1-16. **Impact factor: 4.213**

- [8] A. Haghrah, **M. Nazari-Heris**, and B. Mohammadi-ivatloo. "Solving combined heat and power economic dispatch problem using real coded genetic algorithm with improved Mühlenbein mutation." *Applied Thermal Engineering* 99 (2016): 465-475. **Impact factor: 4.771**
- [9] **M. Nazari-Heris**, A. Fakhim-Babaei, B. Mohammadi-Ivatloo and S. Asadi, "Improved harmony search algorithm for the solution of non-linear non-convex short-term hydrothermal scheduling." *Energy*, (2018), 151, 226-237. **Impact factor: 4.968**
- [10] **M. Nazari-Heris**, B. Mohammadi-Ivatloo, and A. Haghrah. "Optimal short-term generation scheduling of hydrothermal systems by implementation of real-coded genetic algorithm based on improved Mühlenbein mutation." *Energy* (2017): 77-85. **Impact factor: 4.968**
- [11] F. Sohrabi, **M. Nazari-Heris**, B. Mohammadi-Ivatloo and S. Asadi, "Optimal Chiller Loading for Saving Energy by Exchange Market Algorithm." *Energy and Buildings*, (2018), 169, 245-253. **Impact factor: 4.457**
- [12] S. Abapour, **M. Nazari-Heris**, B. Mohammadi-Ivatloo and MT Hagh, "Game Theory Approaches for the Solution of Power System Problems: A Comprehensive Review." *Archives of Computational Methods in Engineering*, (2018), 1-23. **Impact factor: 6.605**
- [13] O. Hoseynpour, B. Mohammadi-Ivatloo, **M. Nazari-Heris**, and S. Asadi, "Application of Dynamic Non-Linear Programming Technique to Non-Convex Short-Term Hydrothermal Scheduling Problem." *Energies*, 10(9), (2017): 1440. **Impact factor: 2.676**
- [14] M. Abdolkarimzadeh, **M. Nazari-Heris**, M. Abapour, and M. Sabahi, "A Bridge Type Fault Current Limiter for Energy Management of AC/DC Microgrids." *IEEE Transactions on Power Electronics* (2017). **Impact factor: 6.812**
- [15] **M. Nazari-Heris**, H. Nourmohamadi, M. Abapour, and M. Sabahi, "Multi-Level Nonsuperconducting Fault Current Limiter: Analysis and Practical Feasibility". *IEEE Transactions on Power Electronics* (2017): 6059-6068. **Impact factor: 6.812**

[16] H. Nourmohamadi, **M. Nazari-Heris**, M. Sabahi, and M. Abapour, "A Novel Structure for Bridge-Type Fault Current Limiter: Capacitor-Based Nonsuperconducting FCL." *IEEE Transactions on Power Electronics*, (2017): 33(4), 3044-3051. **Impact factor: 6.812**

Publications (Scopus Papers):

[1] **M. Nazari-Heris**, and B. Mohammadi-Ivatloo. "Optimal placement of phasor measurement units to attain power system observability utilizing an upgraded binary harmony search algorithm." *Energy Systems* 6.2 (2015): 201-220.

[2] **M. Nazari-Heris**, S. Madadi, S. Abapour, B. Mohammadi-Ivatloo, Optimal Stochastic Scheduling of Virtual Power Plant Considering NaS Battery Storage and Combined Heat and Power Units, *Journal of Energy Management and Technology*, (2018), 1-7

[3] F. Kalavani, **M. Nazari-Heris**, and B. Mohammadi-ivatloo, "Evaluation of Peak Shifting and Energy Saving Potential of Ice Storage Based Air Conditioning Systems in Iran", *Journal of Operation and Automation in Power Engineering* 5(2), (2017) 163-170.

[4] M. Ghahramani, **M. Nazari-Heris**, K. Zareh, and B. Mohammadi-Ivatloo, "Incorporation of Demand Response Programs and Wind Turbines in Optimal Scheduling of Smart Distribution Networks: A Case Study." *The Journal of Smart Electrical Engineering (IJSEE)* (2016)

[5] M. Ghahramani, **M. Nazari-Heris**, K. Zare, B. Mohammadi-Ivatloo, "Energy Management of Electric Vehicles Parking in a Power Distribution Network Using Robust Optimization Method", *Journal of Energy Management and Technology*, (2018), 22-30

Publications (Book Chapters):

[1] S. Madadi, **M. Nazari-Heris**, and B. Mohammadi-Ivatloo, "Application of Fuzzy Methods in Power system Problems", Book Chapter in "Neural Computation in Engineering and Science", (2017)

- [2] **M. Nazari-Heris**, and B. Mohammadi-Ivatloo, “Design of Small Hydro Generation Systems”, Book Chapter in “Distributed Generation Systems: Design, Operation and Grid Integration”, Elsevier, (2017)
- [3] M. Zamani-Gargari, **M. Nazari-Heris**, and B. Mohammadi-Ivatloo, “Application of Particle Swarm Optimization Algorithm in Power system Problems”, Book Chapter in “Neural Computation in Engineering and Science”, Elsevier, (2017)
- [4] **M. Nazari-Heris**, S. Madadi, M. Pesaran Hajiabbas and B. Mohammadi-Ivatloo, “Optimal Distributed Generation Allocation Using Quantum Inspired Particle Swarm Optimization”, Book Chapter in “The application of quantum inspired intelligent in power systems”, Springer, (2017)
- [5] M. Pesaran Hajiabbas, **M. Nazari-Heris**, S. Madadi and B. Mohammadi-Ivatloo, “The Utilization of Quantum Inspired Computational Intelligent in Power Systems Optimization”, Book Chapter in “The application of quantum inspired intelligent in power systems”, Springer, (2017)
- [6] **M. Nazari-Heris**, and B. Mohammadi-Ivatloo, “Application of Robust Optimization Method to Power System Problems”, Book chapter in “Classical and Recent Aspects of Power System Optimization”, Elsevier, (2018)
- [7] **M. Nazari-Heris**, S. Madadi and B. Mohammadi-Ivatloo, “Optimal Management of Hydrothermal-Based Micro-Grids Employing Robust Optimization Method”, Book chapter in “Classical and Recent Aspects of Power System Optimization”, Elsevier, (2018)
- [8] S. Madadi, **M. Nazari-Heris**, B. Mohammadi-Ivatloo, S. Tohidi, “Implementation of Genetic-Algorithm-Based Forecasting Model to Power System Problems”, Book chapter in “Handbook of Research on Predictive Modeling and Optimization Methods in Science and Engineering”, IGI Global, (2018)
- [9] S. Madadi, **M. Nazari-Heris**, B. Mohammadi-Ivatloo, S. Tohidi, “Application of Big Data Analysis to Operation of Smart Power Systems”, Book chapter in “Big Data in Engineering Applications”, Springer, (2018)

Publications (Conference Full Papers):

- [1] H. Nourmohamadi, **M. Nazari-Heris**, Mehran Sabahi, Mehdi Abapour, and Ebrahim Babaei. "New structure of nonsuperconducting fault current limiter for wide ranges of currents based on PWM switching strategy." In Electrical Engineering (ICEE), 2017 Iranian Conference on, pp. 1154-1158. IEEE, (2017).
- [2] **M. Nazari-Heris**, A. Fakhim-Babaei, B. Mohammadi-Ivatloo, "A Novel Hybrid Harmony Search and Particle Swarm Optimization Method for Solving Combined Heat and Power Economic Dispatch", 2017 Smart Grids Conference (SGC), Shahid Rajaei University, Tehran, Iran, (2017)
- [3] M. Ghahramani, **M. Nazari-Heris**, K. Zare, B. Mohammadi Ivatloo, "Robust Optimization of Renewable Energy Based Distribution Networks Considering Electrical Energy Storage and Fuel Cell", 26th Iranian Conference on Electrical Engineering (ICEE2018), Mashhad, Iran, (2018)
- [4] A. Fakhim-Babaei, **M. Nazari-Heris**, B. Mohammadi-Ivatloo, "The Optimal Generation Scheduling of Large-Scale Combined Heat and Power Units Proposing an Improved Harmony Search Algorithm", 26th Iranian Conference on Electrical Engineering (ICEE2018), Mashhad, Iran, (2018)
- [5] M. Ghahramani, **M. Nazari-Heris**, K. Zare, B. Mohammadi Ivatloo, "Optimal Management of Plug-in Electric Vehicles and Fuel Cell in Electric Distribution Networks", Iranian Conference on Renewable Energy & Distribution Generation, Tabriz, Iran, (2018)
- [6] P. Amani, **M. Nazari-Heris**, B. Mohammadi-Ivatloo, and Kazem Zare, "Optimal Robust Short-term Scheduling of Merchant Hydro Producer Considering Uncertain Price and Rainfall", Sixth European Conference on Renewable Energy Systems (ECRES2018), Istanbul, Turkey, (2018)
- [7] **M. Nazari-Heris**, B. Mohammadi-Ivatloo and S. Asadi, "Optimal Energy Management of Renewable Energy Based Microgrids Considering Uncertainties Associated with Power Market Price as Well as Renewable Generation Units", Sixth European Conference on Renewable Energy Systems (ECRES2018), Istanbul, Turkey, (2018)

[8] MA. Mirzaei, **M. Nazari-Heris**, B. Mohammadi-Ivatloo and M. Marzband, “Consideration of Hourly Flexible Ramping Products in Stochastic Day-Ahead Scheduling of Integrated Wind and Storage Systems”, 2018 Smart Grid Conference (SGC), Sanandaj, Iran, (2018)

[9] M. Sadat-Mohammadi, **M. Nazari-Heris**, H. Nafisi, M. Abedi, “Comprehensive Analysis for Dual-Axis Sun Tracking System in Iran Photovoltaic Panels”, 2018 Smart Grid Conference (SGC), Sanandaj, Iran, (2018)

Languages:

- **Turkish/Azari:** Native Speaker
- **Persian:** Native Speaker
- **English:** Near-Native Speaker

Editorial Duties (Reviews for International Journals):

Applied Soft Computing

IEEE Systems Journal

Engineering Optimization

IEEE Access

IETE Journal of Research

International Journal of Ambient Energy

International Conference on Mechanical, Electric and Industrial Engineering

References:

- **Dr. Behnam Mohammadi-Ivatloo**

Associate Professor

Faculty of Electrical and Computer Engineering, University of Tabriz

Email: bmohammadi@tabrizu.ac.ir

Webpage: <https://asatid.tabrizu.ac.ir/en/pages/default.aspx?bmohammadi>

- **Dr. Gevork B. Gharehpetian**

Professor

Amirkabir University of Technology (Tehran Polytechnic)

Email: grptian@aut.ac.ir

Webpage: <http://ele.aut.ac.ir/~gharehpetian/>

- **Dr. Mehdi Abapour**

Associate Professor

Faculty of Electrical and Computer Engineering, University of Tabriz

Email: abapour@tabrizu.ac.ir

Webpage: <https://asatid.tabrizu.ac.ir/en/pages/default.aspx?abapour>