




Hêmin Golpîra (He/His)

Associate Professor

Born: 9-March-1986
Place of Birth: Sanandaj, Kurdistan, Iran

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EDUCATION

University of Wisconsin-Madison <i>Associate Fellow</i>	Madison, USA 2014-2015
Tarbiat Modares University <i>Ph.D. in Electrical Engineering, Power System</i> Thesis: Frequency stability assessment in large-scale power systems considering high penetration of Micro-Grids GPA (without thesis grade): 17.66/20 (with honor) Thesis score: 19.5/20	Tehran, Iran 2011-2015
University of Kurdistan <i>M.Sc. in Electrical Engineering, Power System</i> Thesis: AVR-PSS co-ordination in the presence of renewable energy sources GPA: 18.52/20 (with honor)	Kurdistan, Iran 2008-2011
University of Kurdistan <i>B.Sc. in Electrical Engineering, Electronic</i> Thesis: Reversible medical image watermarking based on wavelet histogram shifting GPA: 16.70/20 (with honor)	Kurdistan, Iran 2004-2008
Zanyaran High School (Elite students school) <i>Diploma, Mathematics and Physics</i> GPA: 18.70/20	Kurdistan, Iran 2000-2004

PUBLICATIONS

Book

H. Golpîra, A.R. Messina, H. Bevrani “Renewable Integrated Power System Stability and Control”, Wiley-IEEE, USA, 2021.

Refereed Journal Articles (Published/Accepted)

- 1- S. Ghanbari, S. Bahramara, **H. Golpîra**, “Modeling Market Trading Strategies of the Intermediary Entity for Microgrids: A Reinforcement Learning-Based Approach” *Electric Power Systems Research*, Vol. 227PB, 109989, 2024.
- 2- A. Ahmadzadeh Moghaddam, S. Bahramara, K. Zare, **H. Golpîra**, “Modeling the power trading strategies of a retailer with multi-microgrids: a robust bi-level optimization

- approach.” *Energy Sources, Part B: Economics, Planning, and Policy*, Vol. 19, No. 1, 2288952. 2024.
- 3- **H. Golpîra**, H. Bevrani, A. R. Messina, B. Francois “A Data-Driven Under Frequency Load Shedding Scheme in Power Systems”, *IEEE Transactions on Power Systems*, Vol. 38, No. 2, pp. 1138-1150, 2023.
 - 4- S. Shazdeh, **H. Golpîra**, H. Bevrani, “An Adaptive Data-Driven Fuzzy Approach to Determine Power System Voltage Status”, *Journal of Modern Power Systems and Clean Energy*, doi: 10.35833/MPCE.2023.000325, 2023.
 - 5- S.U. Molina-Pineda, A.R. Román-Messina, M.A. Hernández-Ortega, **H. Golpîra**, “A center-of-gravity-based framework for small-and large-signal frequency analysis of interconnected power systems”. *Electric Power Systems Research*, Vol. 223, No. 109677, 2023.
 - 6- S. Shazdeh, **H. Golpîra**, H. Bevrani, “A PMU-based back-up protection scheme for fault detection considering uncertainties”, *International Journal of Electrical Power & Energy Systems*, Vol. 145, 108592, 2023.
 - 7- H. Younessi, S. Bahramara, F. Adabi, and **H. Golpîra**, “Modeling the optimal sizing problem of the biogas-based electrical generator in a livestock farm considering a gas storage tank and the anaerobic digester process under the uncertainty of cow dung”. *Energy*, Vol. 270, No. 5, 126876, 2023.
 - 8- S. Amini, S. Bahramara, **H. Golpîra**, B. Francois, J. Soares, “Techno-Economic Analysis of Renewable-Energy-Based Micro-Grids Considering Incentive Policies”, *Energies*, Vol. 15, No. 21, pp. 8285-8293, 2022.
 - 9- **H. Golpîra**, S. Amini, A. Atarodi, H. Bevrani “A Data-Driven Inertia Adequacy Based Approach for Sustainable Expansion Planning in DGs-Penetrated Power Grids”, *IET Generation, Transmission & Distribution*, Vol. 16, No. 22, pp. 4614-4629, 2022.
 - 10- A. Atarodi, **H. Golpîra**, H. Bevrani “Damping Controller Design Based on Identified Model Using Wide-Area Phasor Measurements Data”, *Iranian Journal of Electrical and Computer Engineering*, Vol. 20, No. 3, pp. 225-232, 2022.
 - 11- J. Liu, **H. Golpîra**, H. Bevrani and T. Ise, "Grid Integration Evaluation of Virtual Synchronous Generators Using a Disturbance-Oriented Unified Modeling Approach," *IEEE Transactions on Power Systems*, Vol. 36, No. 5, pp. 4660 – 4671, 2021.
 - 12- H. Bevrani, **H. Golpîra**, A.R. Messina, N. Hatziargyriou, F. Milano, & T. Ise, “Power system frequency control: An updated review of current solutions and new challenges” *Electric Power Systems Research*, Vol. 194, No. 5, 107114, 2021.
 - 13- **H. Golpîra**, A. Atarodi, S. Amini, A. R. Messina, B. Francois and Hassan Bevrani, “Optimal energy storage system-based virtual inertia placement: A frequency stability point of view”, *IEEE Transactions on Power Systems*, Vol. 35, No. 6, pp. 4824 - 4835, 2020.
 - 14- **H. Golpîra**, P. Sheikhamadi, S. Bahramaram, B. Francois “Risk Management Model for Simultaneous participation of Distribution Company in Day-ahead and Real-time Markets”, *Sustainable Energy, Grids and Networks*, Vol. 21, No. 3, 100292, 2020.
 - 15- Selah Mohammadi, Jamal Moshtagh, and **Hêmin Golpîra**. "Impact of power exchange on reliability and economic indices of networked microgrids." *International Transactions on Electrical Energy Systems*, Vol. 30, No. 5, e12324, 2020.
 - 16- **H. Golpîra**, A.R. Messina, H. Bevrani “Emulation of Virtual Inertia to Accommodate Higher Penetration Levels of Distributed Generation in Power Grids”, *IEEE Transactions on Power Systems*, Vol. 33, No. 5, pp. 3384-3394, 2019.

- 17- Hassan Bevrani, Qobad Shafiee, **Hêmin Golpîra** “Frequency Stability and Control in Smart Grids” *IEEE Smart Grid E-Newsletter*, September 2019.
- 18- **H. Golpîra**, “Bulk Power System Frequency Stability Assessment in Presence of MicroGrids”, *Electric Power Systems Research*, Vol. 174, No. 9, 105863, 2019.
- 19- **H. Golpîra**, H. Bevrani, “A New Measurement-Based Approach for Power System Small Signal stability and Voltage Regulation Enhancement” *Journal of Iranian Association of Electrical and Electronics Engineers*, Vol. 16, No. 3, pp. 61-72, 2019.
- 20- S. Bahramara, P. Sheikhamdi, and **H. Golpîra** “Co-optimization of Energy and Reserve in Standalone Micro-Grid Considering Uncertainties Energy”, *ENERGY*, Vol.176, No. 1, pp. 792-804, 2019.
- 21- **H. Golpîra**, Arturo Roman Messina, “A Center-of-Gravity-based Approach to Estimate Slow Power and Frequency Variations” *IEEE Transactions on Power Systems*, Vol. 33, No. 1, pp. 1026-1035, 2018.
- 22- **H. Golpîra**, Hossein Seifi, Arturo-Roman Messina, M.R. Haghifam “Maximum Penetration level of Micro-Grids in Large-Scale power Systems: Frequency Stability Viewpoint” *IEEE Transactions on Power Systems*, Vol. 31, No. 6, pp. 5163-5171, 2016.
- 23- H. Golpîra, **H. Golpîra** “Soft simulator for redesigning of a chickpea harvester header” *Computers and Electronics in Agriculture*, Vol. 135, pp. 252-259, 2017.
- 24- H. Golpîra, **H. Golpîra** “Redesign and evaluation of an automatic fruit sorter” *International Journal of Advanced Manufacturing Technology*, Vol. 89, No. 6, pp. 1791-1798.
- 25- **H. Golpîra**, H. Seifi, and M.R. Haghifam “Dynamic Equivalencing of an Active Distribution Network for Large-Scale Power System Frequency Stability Studies”, *IET Generation, Transmission and Distribution*, Vol. 9, No. 15, pp. 2245-2254, 2015.
- 26- **H. Golpîra**, M.K. Shiekh-El-Eslami, and H. Seifi “Power System Stabilizer Services Pricing in an Electricity Market”, *Electric Power Components and Systems*, Vol. 43, No. 18, pp. 2050-2058, 2015.
- 27- **H. Golpîra**, M.R. Haghifam, and H. Seifi “Dynamic power system equivalence considering distributed energy resources using Prony analysis”, *International Transactions on Electrical Energy Systems*, Vol. 28, No. 8, pp. 1539-1551, 2015.
- 28- **H. Golpîra** and H. Bevrani “A Framework for Economic Load Frequency Control Design in an interconnected power system”, *Electric Power Components and Systems*, Vol. 42, No. 8, pp. 779 – 788, 2014.
- 29- **H. Golpîra**, H. Bevrani, and A. Hesami Naghshbandy “An Approach for coordinated AVR-PSS Design in Large Scale Interconnected Power Systems Considering Wind Power Penetration”, *IET Generation, Transmission & Distribution*, Vol. 6, No. 1, pp. 39-49, 2012.
- 30- **H. Golpîra**, H. Bevrani, and H. Golpîra “Application of GA Optimization for Automatic Generation Control Design in an Interconnected Power System”, *Energy Conversion and Management*, Vol. 52, No. 5, pp. 2247-2255, 2011.
- 31- **H. Golpîra**, and H. Danyali “Reversible Medical Image Watermarking Based on Wavelet Histogram Shifting”, *Imaging Science Journal*, Vol. 59, No. 1, pp. 49-59, 2011 (Obtained from My B.Sc. project).
- 32- **H. Golpîra**, H. Bevrani, and H. Golpîra “Effect of Physical Constraints on the AGC Dynamic Behavior in an Interconnected Power System”, *Int. Journal of Advanced Mechatronic Systems*, Vol.3, No. 1, pp. 79-87, 2011.

- 33- H. Golpira, and **H. Golpîra** “Application of signal processing technique for the modification of a fruit sorting machine”, *Int. Journal of Advanced Mechatronic Systems*, Vol.5, No. 2, pp. 122-128, 2013.
- 34- **H. Golpîra**, H. Bevrani, and A. Hesami Naghshbandy “A Survey on Coordinated Design of Automatic Voltage Regulator and Power System Stabilizer”, *Int. Review of Automatic Control*, Vol. 3, No. 2, pp. 172-182, 2010.
- 35- H. Golpira, **H. Golpîra**, and B. Hosseinzadeh “Design, Development and evaluation of weight sorting automatic machine for apple”, *Food Research Journal*, Vol. 19, No. 1, pp. 37-46, 2009 (In Persian).

Refereed Journal Articles (Revised)

- 1- **H. Golpîra**, B. Marinescu “On the Participation of Inverter-Based Resources in Frequency Regulation”, Revised *IEEE Transactions on Power Systems*.
- 2- **H. Golpîra**, “A Data-Driven Based Approach for Islanding Detection In Large-Scale Power Systems”, Revised *IEEE Transactions on Power Systems*.

Refereed Conference Articles (Published/Accepted)

- 1- S. Amini, I. Kamwa, S. Nahvi, **H. Golpira**, “Multi-objective generation and transmission expansion planning: An economic and technical viewpoint.” 2023 International Conference on Future Energy Solutions (FES) (pp. 1-6). IEEE, 2023.
- 2- **H. Golpîra**, H. Bevrani, “Microgrids Impact on Power System Frequency Response”, *Energy Procedia*, vol. 156, pp 417-424, 2019.
- 3- **H. Golpîra**, M.P. Moghadam, and H. Seifi, “Predictive Reliability-Centered-Maintenance for Asset Management and Enabling Quick Diagnosis-Response to Events”, *2nd International Conference on Electrical, Computer, Mechanical and Mechatronics Engineering (ICE2015), 27-28 August 2015, Istanbul, Turkey*.
- 4- **H. Golpîra**, and H. Bevrani “Application of GA Optimization for Automatic Generation Control in Realistic Interconnected Power Systems”, *IEEE ICMIC 2010*, pp. 30-34, 2010.
- 5- **H. Golpîra**, and H. Danyali “Reversible Blind Watermarking for Medical Images Based on Wavelet Histogram Shifting”, *IEEE ISSPIT 2009*, pp. 31-36, 2009 (Obtained from My B.Sc project).
- 6- **H. Golpîra**, H. Bevrani, and A. Hesami Naghshbandy “A new approach for small signal and voltage stability improvement in power system”, *20th Iranian Power System Conference*, 2012(In Persian).
- 7- H. Golpira, and **H. Golpîra** “Improvement of an Apple Sorting Machine Using PSNR Criterion”, *IEEE ICAMechS*, pp. 729-732, 2012.



Editorial Boarding Activity

- Associate Editor for *IEEE Transactions on Power Systems* (Jan-2023-...)
- Associate Editor for *IEEE Power Engineering Letter* (Jan 2023-...)
- Associate Editor for *IET Generation, Transmission and Distribution* (Sep 2022- ...)
- Associate Editor for *Electric Power Systems Research* (March 2023-...)



Professional Keynote/Invited Speech

- "Renewable Integrated Power System Stability and Control: Frequency Point of View", 5th International Conference on Electrical Engineering and Green Energy (CEEGE), Berlin, Germany.



WORK EXPERIENCES

Associate Professor, University of Kurdistan	Kurdistan, Iran July 2021-Present
Visiting Professor, Ecole Central Lille	Lille, France <i>Jul. 2023-Sep. 2023</i>
Visiting Professor, Ecole Central Nantes	Nantes, France Feb 2023-April 2023
Assistant Professor, University of Kurdistan	Kurdistan, Iran <i>2016-July 2021</i>
Visiting Professor, Ecole Central Lille	Lille, France <i>Jul. 2019-Sep. 2019</i>
Visiting Professor, Ecole Central Lille	Lille, France <i>Oct. 2021-Dec. 2021</i>



RESEARCH INTEREST

Power system

- Renewable integrated power system stability and control
- Power system modeling & simulation
- Wide area monitoring, control and protection



RESEARCH PROJECTS

- Frequency Analysis Based Centralized Load Shedding and Island Detection Using PMU Data, *Iran Grid Management Company (IGMC)*, 2020.
- A Center-of-Gravity-based Approach to Estimate Slow Power and Frequency Variations, *Iran National Science Foundation (INSF)*, 2018.
- PMU-based island detection in interconnected power systems, *Iran National Science Foundation (INSF)*.
- Frequency Stability Assessment in Large-Scale Power Systems using Frequency Propagation, *Iran National Science Foundation (INSF)*, 2015.



AWARDS AND HONORS

- 2024** ▪ Awarded IEEE Transaction on Power Systems best paper prize for “A Data-Driven Under Frequency Load Shedding Scheme in Power Systems”.
- 2024** ▪ Awarded outstanding Associate Editor (AE) of IEEE Transaction on Power Systems
- 2023:** ▪ Hêmin received IEEE 2022 Young Researcher Award.
- 2022:** ▪ Appeared in the list of the 2% top-cited scientists in 2022
- 2018:** ▪ 2nd Ranked Award, *KANS award* in ENERGY field
- 2016:** ▪ Awarded Young Assistant-Professor Grant, National Elite Foundation
- Member of *National Elite Foundation*
- 2015:** ▪ 3rd Ranked Award, 17th *Kharazmi Youth Festival*
- Best paper award, *2nd International Conference on Electrical, Computer, Mechanical and Mechatronics Engineering, Turkey, 2015*
- Ranked 1st in Electrical Engineering, Graduate Studies, PhD, Tarbiat Modares University
- 2014:** ▪ Awarded associate fellow scholarship, University of Wisconsin-Madison, WI, USA
- Awarded outstanding research assistant, PSERC
- 2011:** ▪ Awarded Ph.D. Scholarship from Ministry of Science, Research and Technology
- The outstanding student in the Faculty of Engineering, University of Kurdistan.
- 2010** ▪ Ranked 1st in Electrical Engineering, Graduate Studies, M.Sc.
- 2009:** ▪ Member of elite students of Ministry of Science, Research and Technology
- Ranked 1st in Electrical Engineering, Undergraduate Studies
- Awarded M.Sc. Scholarship from Ministry of Science, Research and Technology



COMPUTER ENVIRONMENT FAMILITIES

Electrical Engineering
PSCAD
DigSilent
Neplan
Transient Security Assessment Tools
PLECS
WASP
Mathematical Packages
MATLAB
MAPLE
Mathematica
Programming languages

C++
Drawing, Design
Mechanical
AutoCAD
Microsoft Windows, Microsoft Office (Word, PowerPoint and Excel, Visio)



LANGUAGE SKILL

- **English:** Fluent both spoken and written
- **French:** Beginner
- **Persian:** Semi-Native
- **Kurdish:** Native



PROFESSIONAL SERVICES & ACTIVITIES

Peer Review Service

- Reviewer of *IEEE Transactions on Power Systems*
- Reviewer of *IEEE Transactions on Smart Grids*
- Reviewer of *IEEE Transactions on Industrial Informatics*
- Reviewer of *IEEE Access*
- Reviewer of *IEEE Systems Journal*
- Reviewer of *Journal of Cleaner Production*
- Reviewer of *IET Generation, Transmission and Distribution (IET)*
- Reviewer of *Energy Conversion & Management (Elsevier)*
- Reviewer of *Energy (Elsevier)*
- Reviewer of *International Journal of Electrical Power and Energy Systems (Elsevier)*
- Reviewer of *European Transactions on Electrical Power (Wiley)*
- Reviewer of *International Transaction on Electrical Energy (Wiley)*
- Reviewer of *Electric Power Components and Systems (Taylor & Francis)*
- Reviewer of *Ain Shams Engineering Journal (Elsevier)*
- Reviewer of *Turkish Journal of Electrical Engineering & Computer Sciences*
- Reviewer of *International Journal of Electrical and Electronics Engineering Research*
- Reviewer of *International Journal of Advanced Mechatronic Systems*
- Reviewer of *International Journal of Electronics (Taylor & Francis)*
- Reviewer of *Imaging Science Journal (Taylor & Francis)*

Conference Committee

- Publicity chair of 7th International Conference on Electrical Engineering and Green Energy (CEEGE2024), Los Angeles, USA
- Publicity chair of 6th International Conference on Electrical Engineering and Green Energy (CEEGE2023), Grimstad, Norway
- Technical Program Committee (TPC) Member of 2019 Smart Grid Conference (2019 SGC), Sharif University of Technology, Tehran, Iran
- Executive Committee Chair of 2018 Smart Grid Conference (2018 SGC), University of Kurdistan, Kurdistan, Iran

- Technical Program Committee (TPC) Member of 2018 Smart Grid Conference (2018 SGC), University of Kurdistan, Kurdistan, Iran
- Technical Program Committee (TPC) Member of 2013 International Conference on Advances in Industrial Control, Electronics and Computer Engineering (AICECE'13), Taiwan
- Technical Program Committee (TPC) Member of 2012 International Conference on Energy Research and Power Engineering (ERPE'12), Canada
- Program Committee (PC) Member of IEEE International Symposium on Signal Processing and Information Technology 2010 (ISSPIT 2010)
- Technical Program Committee (TPC) Member of IEEE International Symposium on Signal Processing and Information Technology 2010 (ISSPIT 2010)

