

**Hossein Shayeghi, Ph. D., SMIEEE**

Professor

Faculty of Technical Engineering

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E-Mail: [hshayeghi@uma.ac.ir](mailto:hshayeghi@uma.ac.ir); [hshayeghi@gmail.com](mailto:hshayeghi@gmail.com)Lab: [Energy Management Research Centre](#)**Homepage:** [University Of Mohaghegh Ardabili](#)**Google Scholar:** [Link](#), (H-index=49, No. of Citations=9083, Date: April 8, 2024)**Scopus:** [Link](#) (H-index=42, No. of Citations=5951, Date: April 8, 2024)**ORCID:** [0000-0003-0398-399X](#)**Short Bio:**

Hossein Shayeghi received the B.S. and M.S.E. degrees in Electrical and Control Engineering in 1996 and 1998, respectively. He received his Ph.D. degree in Electrical Engineering from Iran University of Science and Technology, Tehran, Iran in 2006, graduating all with First Class Honors. He published more than 600 scientific papers in International Journals and Conferences and 18 books and 15 chapter books in Electrical Engineering fields. Prof. Shayeghi is the Senior Member of IEEE and a member of Iranian Association of Electrical and Electronic Engineers, Iranian wind Energy Association Iranian and Energy Association.

He has been holding the Assistant Professor position at University of Mohaghegh Ardabili (UMA) from 2006 to 2009, the position of Associate Professor from 2009 to 2012 and has been Professor since 2012.

Since 2013 and 2017, Prof. Shayeghi has been Editor-in-Chief of *Journal of Operation and Automation in Power Engineering (indexed by Scopus)* and *Journal of Energy Management and Technology*, respectively.

**Work Experience:**

Faculty of Technical Engineering

University of Mohaghegh Ardabili, Ardabil, Iran

Professor

June 2012 - Present

Associate Professor

May 2009 - June 2012

Assistant Professor

May 2006 - May 2012

**Research Interests:**

Smart Grid, Renewable Energy Integrated Microgrids, Integrated Energy Systems, FACTS Devices, Power Electronic Converters, Power System Dynamics, Application of Artificial Intelligence and Optimization Methods in Energy Systems

**Teaching:**

**Undergraduate Courses:** Power System Analysis, Electric circuits, Linear Control System, Electrical Installation, Transmission Line Energy Design

**Graduate Courses:** Smart Grid, Renewable Energies, Modern Distribution Networks, Power System Dynamics, FACTS Devices and Power Market

**Executive Positions:**

- Dean of Energy Management Research Centre, University of Mohaghegh Ardabili, 2019 - Present.
- Dean of Iran's National Elites Foundation, Ardabil Province, Vice Presidency of Science and Technology, 2011 - 2023.
- Research Affairs Manager, University of Mohaghegh Ardabili, 2022 - 2023.
- Vice President of Construction Engineering Disciplinary Organization, Ardabil Province, 2009-2011, 2019 -2020.
- Head of Technology Center, University of Mohaghegh Ardabili, Iran, 2007 - 2011.
- Chancellor for Research Affairs of Faculty of Technical Engineering, University of Mohaghegh Ardabili, 2006 - 2007.

**Selected Professional Experiences:**

- Member of research committee of Ardabil State Electric Power Distribution Co., Ministry of Energy (2015-present)

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- Member of research committee of Ardabil State Regional Water Co., Ministry of Energy (2016-2022)
  - Member of the Board of Trustees of Islamic Azad University, Ardabil Branch, Iran, (2018-Present)
  - Member of the Public Culture Council of Ardabil State, Iran, since 2017.
  - Member of International Cooperation Council of University of Mohaghegh Ardabili, Iran, 2015 - Present
  - Member of the Scientific Council of Ardabil Science and Technology Park, Ministry of Science, Research and Technology of Iran (2023-Present)
  - Member of the Council University of Mohaghegh Ardabili, Iran, 2015 - 2023.
  - Member of education committee of Construction Engineering Disciplinary Organization, Ardabil State, Iran, 2011-2021.
  - Member of the Technology Planning Policy Committee, Ministry of Science, Research and Technology of Iran (2016-2018)
  - Member of the Education and Research Commission of the Central Council Construction Engineering Disciplinary Organization, Ministry of Housing and City Planning, Iran (2011-2014)
  - Member of the Specialized commission of Electrical Installation of the Central Council Construction Engineering Disciplinary Organization, Ministry of Housing and City Planning, Iran (2011-2014)
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**Education:**

- Ph. D in Electrical Engineering, Iran University of Science and Technology, Tehran, Iran, 2001-2005
  - MS in Control Engineering, Amirkabir University of Technology, Tehran, Iran, 1995-1998
  - BS in Electrical Engineering, KNT University of Technology, Tehran, Iran, 1991-1995
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**Awards and Honors:**

- Distinguished Researcher of Iran selected and awarded by the Ministry of Science, Research and Technology of Iran (2023)
  - Highly Cited Researcher (Among world's top 1% elite Engineering scientists) awarded by ESI (Essential Science Indicators) ranking system based on the ISI Web of Science database (2014-2023)
  - Science and Culture Award of Ardabil Province, 2017.
  - Best Researcher selected by Iranian Wind Energy Association (IWEA), 2017.
  - Distinguished Researcher awarded by Construction Engineering Disciplinary Organization, Ministry of Housing and City Planning, Iran, 2012.
  - Best Research Award of Ardabil Province, 2008, 2010, 2011, 2017 and 2023.
  - First rank among graduated PhD students, Iran University of Science and Technology, in 2005.
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**Funded Research:**

1. Probabilistic Scenario-based Multi-objective Energy Management in a Residential Town considering Smart Homes and Renewable Resources including Carbon Trading, Funded by Center for International Scientific Studies and Cooperation of the Ministry of Science, Research and Technology, Iran, 2024-2025 (Project Manager).
2. Extraction of Coincidence Factor of Residential and Commercial Consumption Tariff for Ardabil Province (first phase: Pars-Abad city), Funded by Ardabil Province of Electricity Distribution Company, Ministry of Energy, Iran, 2024-Present, (Project Manager).
3. Energy Management of a Smart Home with Optimal Scheduling of Domestic Appliances and Energy Sources in Order to Reduce the Electricity Bill, Funded by Research Deputy University of Mohaghegh Ardabili, Iran, 2021-2022 (Project Manager).
4. Analysis and Implementation of Transformer-Less DC-DC Structure with High Voltage Rate and Low Voltage Stress Applied for Distributed Generation, Funded by Research Deputy of University of Mohaghegh Ardabili, 2021-2022, (Project Manager).
5. Frequency Control of an Isolated Microgrid Including Electric Vehicles Using a Fractional Order Master-Slave Controller, Funded by Research Deputy of University of Mohaghegh Ardabili, 2021-2022, (Project Manager).
6. Analysis and design of a non-insolated bidirectional DC-DC converter with the capability of charging and discharging operation for connecting the battery of hybrid energy systems, Funded by Research Deputy of University of Mohaghegh Ardabili, 2020-2021, (Project Manager).
7. A non-isolated buck-boost DC-DC converter with wide voltage conversion ratio useful for battery chargers, Funded by Research Deputy University of Mohaghegh Ardabili, Iran, 2019-2020.
8. Designing a Multi-Stage Combined Integer-Fractional-Order TDF(1+FOPI) Controller for LFC of the Microgrids, Funded by Research Deputy of University of Mohaghegh Ardabili, 2021-2022, (Project Manager).
9. Design of a proper filter to improve Power quality parameters of distribution system including compressed natural gas (CNG), Funded by Ardabil Province of Electricity Distribution Company, Ministry of Energy, Iran, 2017-2018, (Project Manager).

10. Potentiometric of renewable hybrid system using for electrification of Gorgor station, Funded by Regional Water Company of Ardabil, Ministry of Energy, Iran, 2016-2017, (Project Manager).
11. Analysis and presenting of optimal energy saving methods in generation units and introducing of Renewable Energy sources using, Funded by Government Trading Corporation of Iran, 7<sup>th</sup> Regional, Ardabil, Iran, 2014-2015, (Project Manager).
12. Techno-economic analysis of solar panels in school of country for reducing of electricity energy custom, Funded by Organization for Development, Renovation and Equipping of School of Iran, Ministry of Education, Iran, 2013-2014, (Project Manager).
13. Optimal design of renewable hybrid system for electrification of Ardabil city offices, Funded by Research Deputy of University of Mohaghegh Ardabili, 2013- 2014 (Project Manager).
14. Optimal Design of Discrete Fuzzy P + Fuzzy I + Fuzzy D Controller for Load Frequency Control of Restructured Power System, Funded by Research Deputy of University of Mohaghegh Ardabili, 2014-2015 (Project Manager).
15. Transmission Network Expansion Planning with the Presence of Large-scale Photovoltaic Power Plants and FATCS Devices, Funded by Research Deputy of University of Mohaghegh Ardabili, 2015-2016 (Project Manager).
16. Improvement of frequency fluctuations in a microgrid with designing a multi stage fuzzy controller based on developed multi-objective GSA, Funded by Research Deputy of University of Mohaghegh Ardabili, 2015-2016 (Project Manager).
17. Design of Reinforcement Learning Based Load Frequency Control in Multi-Source Power System, Funded by Research Deputy of University of Mohaghegh Ardabili, 2016-2017 (Project Manager).
18. Optimal management of microgrid using multi-objective group search algorithm, Funded by Research Deputy of University of Mohaghegh Ardabili, 2016-2017 (Project Manager).
19. Load Frequency Control in Deregulated Power Systems, , Funded by Research Deputy of Iran University of Science and Technology, 2006-2007 (Project Manager).
20. Design of hybrid Fuzzy-Genetic Load Frequency Control, Funded by Research Deputy of University of Mohaghegh Ardabili, 2007-2008 (Project Manager).
21. Short Term Load Forecasting Using ANN, Funded by Research Deputy of University of Mohaghegh Ardabili, 2007-2008 (Project Manager).
22. Generation Expansion Planning Using PSO in Deregulated Power Systems, Funded by Research Deputy of University of Mohaghegh Ardabili, 2007-2008 (Project Manager).
23. Development of Software for Modified Atmosphere Packaging, Funded by Research Deputy of University of Mohaghegh Ardabili, 2008-2009 (Project Manager).
24. Application of Artificial Intelligence for Forecasting Solvent of CO in Water, Funded by Research Deputy of University of Mohaghegh Ardabili, 2008-2009 (Project Manager).
25. Automatic Generation Control by Robust Mixed H<sub>2</sub>/H<sub>∞</sub> Controller including SMES, Funded by Research Deputy of University of Mohaghegh Ardabili, 2008-2009 (Project Manager).
26. Hybrid Fuzzy-PSO UPFC Controller for Power System Stability Improvement, Funded by Research Deputy of University of Mohaghegh Ardabili, 2009-2010 (Project Manager).
27. Robust PSS Design Using PSO, Funded by Research Deputy of University of Mohaghegh Ardabili, 2009-2010 (Project Manager).
28. UPFC Damping Controller Design Based on Multi-objective Function Using PSO, Funded by Research Deputy of University of Mohaghegh Ardabili, 2009-2010 (Project Manager).
29. Congestion Control in the Internet: Inspiration from balanced Food Chain in the Nature, Funded by Research Deputy of University of Mohaghegh Ardabili, 2009-2010 (Project Manager).
30. Intelligent Neuro-Fuzzy Automatic Generation Control in Deregulated Power Systems, Funded by Research Deputy of University of Mohaghegh Ardabili, 2010-2011 (Project Manager).
31. Load Frequency Control Using Honey Bee Mating Optimization Algorithm, Islamic Azad University, Ardabil, Branch, 2010.
32. TCSC Damping Controller Design Using  $\theta$ -PSO for Power System Stability Improvement, Funded by Research Deputy of University of Mohaghegh Ardabili, 2010-2011 (Project Manager).
33. Power Stem Stabilizer Design Using ABC Algorithm, Funded by Research Deputy of University of Mohaghegh Ardabili, 2010-2011 (Project Manager).
34. Environmental/Economoc Load Dispatch Using Multiobjective ABC Optimization Algorithm, Funded by Research Deputy of University of Mohaghegh Ardabili, 2011-2012 (Project Manager).
35. Dynamic Economic Load Dispatch Using Modified Artificial Bee Colony, Funded by Research Deputy of University of Mohaghegh Ardabili, 2013-2014 (Project Manager).

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**Patents:**

1. Geography Position Finding Opened Cut out Fuse, Registers under No. 62108 in Iran, Oct. 25, 2009.
2. Multi- Position One Pole Switches with one Input and output wire and Separately Control of Two Lighting Groups Lamps control, Registers in Iran, 2010.

3. Fully Automatic Cut-out Fuse with the Ability to Receive Commands from the Operator, Registers under No. 71576 in Iran, Sep. 20, 2011.
4. 12 Channel Power Harmonic Meter, Registers under No. 4554 in Iran, Dec. 4, 2018.

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### Publications Summary:

• Number of Published Papers in JCR-Indexed Journals	280
• Number of Highly Cited Papers in WOS	4
• Number of Papers Presented in Conferences	150
• Number of Published Books	14
• Number of Published Book Chapters	18

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### Service to Professional Society

#### A) Served as Journal's Editorial Board Membership

- Editorial board member of Operation and Automation in Power Engineering (JOAPE), (Scopus indexed), 2012-Present.
- Editor-in-Chief Journal of Operation and Automation in Power Engineering (JOAPE), (Scopus indexed), 2013-Present.
- Editorial board member of Journal of Energy management and Technology (JEMAT), 2016-Present.
- Editor-in-Chief Journal of Energy management and Technology (JEMAT), 2017-Present.
- Advisory board member of University of Pitești Scientific Bulletin, Series: Electronics and Computers Science, (Scopus indexed), 2014-present. Advisory board member of International Journal of Technical and Physical Problems of Power Engineering, (Scopus indexed), 2009-Present.
- Editorial board member of Computer and Science Engineering, 2011-Present.
- Editorial board member of Journal of Advanced Computer Science & Technology (JACST), 2012-Present

#### B) Served as Technical committee member/chair for conferences( Some of them as follows)

- Technical Committee member, The 3<sup>rd</sup> International Conference on Electrical Machines and Drives ([ICEMD](#)), Tehran, Iran, 2024.
- Technical Committee member, The 11<sup>th</sup> Smart Grid Conference ([SGC](#)), Iranian Smart grid Association, Tabriz, Iran 2021.
- Technical Chair, International Conference on Energy Management and Technology, Ardabil, Iran, 2020.
- Technical Committee member, Iran Conference on Electrical Engineering ([ICEE](#)), Tabriz University, Tabriz, Iran, 2020.
- Technical Committee member, International Conference on Energy Management and Technology, Iranian Energy Association, Iran, from 2018-2024.
- Technical Committee member, Iran Wind Energy Conference ([IWEC](#)), Iranian Wind Energy Association, Tehran, Iran, 2021.
- Program Committee member, International Conference on Electronics, Computers and Artificial Intelligence ([ECAI](#)), Bucharest, Romania, from 2017-Present.
- Technical Committee member, International Conference on Technical and Physical Problems of Power Engineering ([ICTPE](#)), 2007-Present
- Technical Committee member, 6<sup>th</sup> Iranian Conference on Renewable Energis and Distribution (ICRED), Azarbijan Shahid Madani University, Iran, 2018

#### C) Association and Organization Member:

- IEEE, member (since 2008), Senior member (since 2015)
- Iranian Wind Energy Association (IRWEA), member (since 2016) and member of central board (2021-2023)
- Iranian Association of Electrical and Electronics Engineers
- International Organization of Technical and Physical Problems of Power Engineering
- IIS (USA)
- Iranian Construction Engineering Disciplinary Organization
- Iranian Energy Association
- Iranian Association of Wind Energy
- Iranian Solar Energy Association

- Iranian Power Electronic Association

**D) Served as a Reviewer for most of Journals in the Field as Following:**

- IEEE Trans. On Smart Grids
- IEEE Trans. On Power System
- Applied Energy
- Energy
- Journal of Energy Storage
- IET Generation, Transmission & Distribution
- IET Power Electronics
- Journal of the Franklin Institute
- Journal of Chinese Physics Letters
- Electrical Engineering
- International Journal of Sustainable Energy
- International Journal of Electrical Power and Energy Systems
- Int. J. for Computation and Mathematics in Electrical and Engineering
- Iranian Journal of Electrical and Computer Engineering
- Iranian Journal of Fuzzy Systems
- Journal of the Iranian Association of Electrical and Electronics Engineers
- Serbian journal of Electrical Engineering
- Int. J. of Modeling, Identification and Control (IJMIC)
- Int. J. of Robotics and Automation
- Control and Intelligent Systems
- Asian Journal of Control
- Mathematical Problems in Engineering
- International Journal of Physical Problems on Electrical Engineering