

Hamed Mojallali

Curriculum Vitae

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EDUCATION

PhD in Control Engineering from Iran University of Science & Technology, Tehran, Iran. 2006

MS in Control Engineering from Iran University of Science & Technology, Tehran, Iran. 2000

BS in Electrical Engineering from Amir Kabir University of Technology, Tehran, Iran. 1997

POSITIONS

Professor

2024–present

Electrical Engineering · University of Guilan

Associate Professor: Electrical Engineering Department, Faculty of Engineering, University of Guilan, Rasht, Iran, 2015-2024.

Assistant Professor: Electrical Engineering Department, Faculty of Engineering, University of Guilan, Rasht, Iran, 2007-2015.

Research Assistant: Department of Control Engineering, Aalborg University, Aalborg, Denmark. 2004-2005.

Lecturer: Electrical Engineering Department, Faculty of Engineering, University of Guilan, Rasht, Iran, 2001-2004.

TEACHING

Graduate Courses: Nonlinear Control, Optimal Control, Fuzzy Logic & Control, System Identification, Special Topics in Control

Undergraduate Courses: Linear Control Systems, Modern Control Systems, Industrial Control, Digital Control Systems, Signals & Systems, Circuits II, Engineering Mathematics, Computer Aided Design

AWARDS & HONORS

Selected as the best researcher of the Faculty of Engineering, University of Guilan, 2022.

Selected as the best researcher of the Electrical Engineering Department, University of Guilan, 2013.

Selected as the best researcher of the Faculty of Engineering, University of Guilan, 2012.

Ranked 1st among all PhD students in the Department of Electrical Engineering for research and educational activities, Iran University of Science and Technology, Iran, 2002.

Ranked 1st among all PhD students in the University for Research and educational activities, Iran University of Science and Technology, Iran, 2001.

The Ministry of Science, Research and Technology of Iran fellowship, 2001-2005.

Ranked 1st of PhD program entrance exam, Iran University of Science and Technology, Iran, 2000.

Ranked 1st in Control Engineering graduate program, Iran University of Science and Technology, Iran, Spring 2000.

Ranked top 5% of national graduate program entrance exam, Iran, 1998.

Appeared on DEAN'S LIST each year during undergraduate studies, 1992-1997.

Ranked top 1% of national undergraduate entrance exam, Iran, 1992.

PUBLICATIONS

Shilsar, Sara Majidi, Alireza Khosravi, and **Hamed Mojallali**. 2026a. "Active Disturbance Rejection Control with Neural Network-Based ESO for Gas Turbine Control System by Fractional Fuzzy-PSO Optimization." *ISA Transactions* 176 (May): 287–97. <https://doi.org/10.1016/j.isatra.2026.05.033>.

Sepestanaki, Mohammadreza Askari, Seyed Hossein Rouhani, Saleh Mobayen, Ebrahim Abbaszadeh, Chun-Lien Su, and **Hamed Mojallali**. 2026. "Fractional-Order Finite-Time Model-Following Control for Uncertain Microgrids Against Time-Varying Delay Attack." *IEEE Transactions on Cybernetics* PP (January): 1–14. <https://doi.org/10.1109/tcyb.2026.3712480>.

Shilsar, Sara Majidi, Alireza Khosravi, and **Hamed Mojallali**. 2026b. "Hybrid Linear and Nonlinear Active Disturbance Rejection Control for a Gas Turbine Power Generation System Using a Lookup Table-Based Type-2 Fuzzy Method." *Transactions of the Institute of Measurement and Control*, ahead of print, April 25. <https://doi.org/10.1177/01423312251411419>.

Davatgar, Amir Mohammad, and **Hamed Mojallali**. 2025. "Designing an Optimal PID Controller for a Gas Turbine System Using Reinforcement Learning." *International Transactions on Electrical Energy Systems* 2025 (1). <https://doi.org/10.1155/etep/1376194>.

Kouchesfahani, Reza Naghizadeh, Seyed Saeid Mohtavipour, and **Hamed Mojallali**. 2024. "Enhancing Day-Ahead Electricity Market Planning with a Novel Probabilistic Strategy for Wind Power and Uncertain Customers." *Scientia Iranica* 0 (0): 0–0. <https://doi.org/10.24200/sci.2024.63947.8673>.

Feyzi, Mohammad, and **Hamed Mojallali**. 2024. "Optimal Placement of Light Sensor for Improving Energy Efficiency and Visual Comfort in Smart Buildings." *E-Prime - Advances in Electrical Engineering Electronics and Energy* 9 (July): 100681–100681. <https://doi.org/10.1016/j.prime.2024.100681>.

Ghaderi, Najmeh, and **Hamed Mojallali**. 2024. "Output Feedback Finite-time Boundary Control for an Unstable Heat PDE with Spatially Varying Coefficients." *International Journal of Robust and Nonlinear Control* 34 (17): 11351–76. <https://doi.org/10.1002/rnc.7573>.

Rashid, Reza, Alfred Baghrarian, and **Hamed Mojallali**. 2024. "Quasi-Z-source Interleaved DC-DC Converter for Fuel Cell Vehicle Application." *IET Power Electronics* 17 (16): 2741–70. <https://doi.org/10.1049/pel2.12780>.

Kouchesfahani, Reza Naghizadeh, Seyed Saeid Mohtavipour, and **Hamed Mojallali**. 2023. "Simultaneous Network Reconfiguration and Wind Power Plants Participation in Day-Ahead Electricity Market Considering Uncertainties." *Energy Technology* 11 (9). <https://doi.org/10.1002/ente.202300363>.

Mosayyebi, Seyed Reza, Seyed Hamid Shahalami, and **Hamed Mojallali**. 2023. "Speed Control of a DFIG-Based Wind Turbine Using a New Generation of ADRC." *International Journal of Green Energy* 20 (14): 1669–98. <https://doi.org/10.1080/15435075.2023.2178259>.

Siahroodi, Hossein Jafari, **Hamed Mojallali**, and Seyed Saeid Mohtavipour. 2022a. "A New Stochastic Multi-Objective Framework for the Reactive Power Market Considering Plug-in Electric Vehicles Using a Novel Metaheuristic Approach." *Neural Computing and Applications* 34 (14): 11937–75. <https://doi.org/10.1007/s00521-022-07081-z>.

Siahroodi, Hossein Jafari, **Hamed Mojallali**, and Seyed Saeid Mohtavipour. 2022b. "A Novel Multi-Objective Framework for Harmonic Power Market Including Plug-in Electric Vehicles as Harmonic Compensators Using a New Hybrid Gray Wolf-Whale-Differential Evolution Optimization." *Journal of Energy Storage* 52 (June): 105011–105011. <https://doi.org/10.1016/j.est.2022.105011>.

- Rouhani, Seyed Hossein, **Hamed Mojallali**, and Alfred Baghrmian. 2022a. "Accurate Demand Response Participation in Regulating Power System Frequency by Modified Active Disturbance Rejection Control." *Mathematical Methods in the Applied Sciences* 45 (12): 7685–99. <https://doi.org/10.1002/mma.8271>.
- Mosayyebi, Seyed Reza, Seyed Hamid Shahalami, and **Hamed Mojallali**. 2022. "Fault Ride-through Capability Improvement in a DFIG-Based Wind Turbine Using Modified ADRC." *Protection and Control of Modern Power Systems* 7 (1). <https://doi.org/10.1186/s41601-022-00272-9>.
- Rouhani, Seyed Hossein, **Hamed Mojallali**, and Alfred Baghrmian. 2022b. "Load Frequency Control in the Presence of Simultaneous Cyber-Attack and Participation of Demand Response Program." *Transactions of the Institute of Measurement and Control* 44 (10): 1993–2011. <https://doi.org/10.1177/01423312211068645>.
- Mosayyebi, Seyed Reza, **Hamed Mojallali**, and Seyed Hamid Shahalami. 2022. "Sensorless Vector Control of Doubly Fed Induction Generator Based Wind Turbine Using Fuzzy Fractional Order Adaptive Disturbance Rejection Control." *Energy Sources Part A Recovery Utilization and Environmental Effects* 44 (2): 4630–63. <https://doi.org/10.1080/15567036.2022.2077475>.
- Yari, Keyvan, **Hamed Mojallali**, and Seyed Hamid Shahalami. 2021. "A New Coupled-Inductor-Based Buck–Boost DC–DC Converter for PV Applications." *IEEE Transactions on Power Electronics* 37 (1): 687–99. <https://doi.org/10.1109/tpel.2021.3101905>.
- Doostdar, Fatemeh, and **Hamed Mojallali**. 2021a. *A Novel Algorithm on Adaptive Backstepping Control for a Class of Uncertain Fractional-Order Systems: An ADRC Approach*. February 23, 1–5. <https://doi.org/10.1109/iccia52082.2021.9403574>.
- Barzegarkhoo, Reza, **Hamed Mojallali**, Seyed Hamid Shahalami, and Yam Prasad Siwakoti. 2021. "A Novel Common-ground Switched-capacitor Five-level Inverter with Adaptive Hysteresis Current Control for Grid-connected Applications." *IET Power Electronics* 14 (12): 2084–98. <https://doi.org/10.1049/pel2.12110>.
- Yari, Keyvan, Seyed Hamid Shahalami, and **Hamed Mojallali**. 2021. "A Novel Nonisolated Buck–Boost Converter With Continuous Input Current and Semiquadratic Voltage Gain." *IEEE Journal of Emerging and Selected Topics in Power Electronics* 9 (5): 6124–38. <https://doi.org/10.1109/jestpe.2021.3069788>.
- Doostdar, Fatemeh, and **Hamed Mojallali**. 2021b. "An ADRC-Based Backstepping Control Design for a Class of Fractional-Order Systems." *ISA Transactions* 121 (March): 140–46. <https://doi.org/10.1016/j.isatra.2021.03.033>.
- Rouhani, Seyed Hossein, **Hamed Mojallali**, and Alfred Baghrmian. 2021. "An Optimized Fuzzy Sliding Based Active Disturbance Rejection Control for Simultaneous Cyber-attack Tolerant and Demand Response Participation Program." *International Transactions on Electrical Energy Systems* 31 (12). <https://doi.org/10.1002/2050-7038.13206>.
- Ghaderi, Najmeh, Mohammad Keyanpour, and **Hamed Mojallali**. 2021. "Finite-Time Boundary Stabilization of the Reaction-Diffusion System with Switching Time-Delay Input." *Transactions of the Institute of Measurement and Control* 44 (2): 353–67. <https://doi.org/10.1177/01423312211032545>.
- Siahroodi, Hossein Jafari, **Hamed Mojallali**, and Seyed Saeid Mohtavipour. 2021. "Scenario-Based Stochastic Framework for Harmonic Power Markets Using Plug-in Electric Vehicles." *Journal of Energy Storage* 35 (January): 102290–102290. <https://doi.org/10.1016/j.est.2021.102290>.
- Siahroodi, Hossein Jafari, **Hamed Mojallali**, and Seyed Saeid Mohtavipour. 2020. "A New Optimization Framework for Harmonic Compensation Considering Plug-in Electric Vehicle Penetration Using Adaptive Particularly Tunable Fuzzy Chaotic Particle Swarm Optimization." *Energy Technology* 9 (4). <https://doi.org/10.1002/ente.202000564>.
- Ghaderi, Najmeh, Mohammad Keyanpour, and **Hamed Mojallali**. 2020. "Observer-Based Finite-Time Output Feedback Control of Heat Equation with Neumann Boundary Condition." *Journal of the Franklin Institute* 357 (14): 9154–73. <https://doi.org/10.1016/j.jfranklin.2020.06.028>.
- Pourali, Sajad, and **Hamed Mojallali**. 2020. "Predictor-Based Fractional Disturbance Rejection Control for LTI Fractional-Order Systems with Input Delay." *Transactions of the Institute of Measurement and Control* 42 (16): 3303–19. <https://doi.org/10.1177/0142331220951407>.

- Hasanpour, Sara, Alfred Baghrmian, and **Hamed Mojallali**. 2019a. "Analysis and Modeling of a New Coupled-Inductor Buck–Boost DC–DC Converter for Renewable Energy Applications." *IEEE Transactions on Power Electronics* 35 (8): 8088–101. <https://doi.org/10.1109/tpel.2019.2962325>.
- Hasanpour, Sara, Ali Mostaan, Alfred Baghrmian, and **Hamed Mojallali**. 2019. "Analysis, Modeling, and Implementation of a New Transformerless Semi-quadratic Buck–Boost DC/DC Converter." *International Journal of Circuit Theory and Applications* 47 (6): 862–83. <https://doi.org/10.1002/cta.2620>.
- Yari, Keyvan, Seyed Hamid Shahalami, and **Hamed Mojallali**. 2019. "High Step-up Isolated Dc–Dc Converter with Single Input and Double Output and Soft-switching Performance for Renewable Energy Applications." *IET Power Electronics* 12 (11): 2942–52. <https://doi.org/10.1049/iet-pel.2019.0450>.
- Hasanpour, Sara, Alfred Baghrmian, and **Hamed Mojallali**. 2019b. "Reduced-order Small Signal Modelling of High-order High Step-up Converters with Clamp Circuit and Voltage Multiplier Cell." *IET Power Electronics* 12 (13): 3539–54. <https://doi.org/10.1049/iet-pel.2019.0298>.
- Hasanpour, Sara, Alfred Baghrmian, and **Hamed Mojallali**. 2018. "A Modified SEPIC-Based High Step-Up DC–DC Converter With Quasi-Resonant Operation for Renewable Energy Applications." *IEEE Transactions on Industrial Electronics* 66 (5): 3539–49. <https://doi.org/10.1109/tie.2018.2851952>.
- Moghaddam, Mohammad Jahani, **Hamed Mojallali**, and Mohammad Teshnehlab. 2018a. "A Multiple-input–Single-output Fractional-order Hammerstein Model Identification Based on Modified Neural Network." *Mathematical Methods in the Applied Sciences* 41 (16): 6252–71. <https://doi.org/10.1002/mma.5136>.
- Shafaati, Mehrnoosh, and **Hamed Mojallali**. 2018. "IIR Filter Optimization Using Improved Chaotic Harmony Search Algorithm." *Automatika* 59 (3–4): 331–39. <https://doi.org/10.1080/00051144.2018.1541643>.
- Moghaddam, Mohammad Jahani, **Hamed Mojallali**, and Mohammad Teshnehlab. 2018b. "Recursive Identification of Multiple-Input Single-Output Fractional-Order Hammerstein Model with Time Delay." *Applied Soft Computing* 70 (June): 486–500. <https://doi.org/10.1016/j.asoc.2018.05.046>.
- Hasanpour, Sara, Alfred Baghrmian, and **Hamed Mojallali**. 2017. *A New High-Gain Coupled-Inductor SEPIC Converter for a Microgrid System*. January 1, 294–99. <https://doi.org/10.1109/pedstc.2017.7910340>.
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- Ahmadi, Mohamadreza, **Hamed Mojallali**, and Rafael Wisniewski. 2017. "On Robust Stability of Switched Systems in the Context of Filippov Solutions." *Systems & Control Letters* 109 (October): 17–23. <https://doi.org/10.1016/j.sysconle.2017.09.002>.
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- Mahmoudzadeh, Sina, and **Hamed Mojallali**. 2015. "An Optimized Motion Strategy for the Legless Capsbot Using Non-Linear Optimization." *Journal of Control Engineering and Applied Informatics* 17 (4): 81–89. <https://openalex.org/W2991662548>.
- Gholipour, Reza, Alireza Khosravi, and **Hamed Mojallali**. 2015. "Multi-Objective Optimal Backstepping Controller Design for Chaos Control in a Rod-Type Plasma Torch System Using Bees Algorithm." *Applied Mathematical Modelling* 39 (15): 4432–44. <https://doi.org/10.1016/j.apm.2014.12.049>.

- Ahmadi, Mohamadreza, **Hamed Mojallali**, and Rafael Wisniewski. 2013. "Guaranteed Cost H_∞ Controller Synthesis for Switched Systems Defined on Semi-Algebraic Sets." *Nonlinear Analysis Hybrid Systems* 11 (May): 37–56. <https://doi.org/10.1016/j.nahs.2013.04.001>.
- Moghaddam, Mohammad Jahani, and **Hamed Mojallali**. 2013. "Neural Network Based Modeling and Predictive Position Control of Traveling Wave Ultrasonic Motor Using Chaotic Genetic Algorithm." *International Review on Modelling and Simulations (IREMOS)* 6 (2): 370–79. <https://doi.org/10.15866/iremos.v6i2.2410>.
- Gholipour, Reza, **Hamed Mojallali**, and Seyed Mohammad Kazem Akhlaghi. 2012. "A Novel Particle Swarm Optimization with Passive Congregation via Chaotic Sequences." *International Journal of Computer and Electrical Engineering*, January 1, 809–15. <https://doi.org/10.7763/ijcee.2012.v4.610>.
- Mojallali**, Hamed, Reza Gholipour, Alireza Khosravi, and Hossein Babae. 2012. "Application of Chaotic Particle Swarm Optimization to PID Parameter Tuning in Ball and Hoop System." *International Journal of Computer and Electrical Engineering*, January 1, 452–57. <https://doi.org/10.7763/ijcee.2012.v4.532>.
- Gholipour, Reza, Alireza Khosravi, and **Hamed Mojallali**. 2012a. "Bees Algorithm Based Intelligent Backstepping Controller Tuning For Gyro System." *Journal of Mathematics and Computer Science* 05 (03): 205–11. <https://doi.org/10.22436/jmcs.05.03.08>.
- Ahmadi, Mohamadreza, and **Hamed Mojallali**. 2012. "Chaotic Invasive Weed Optimization Algorithm with Application to Parameter Estimation of Chaotic Systems." *Chaos Solitons & Fractals* 45 (9–10): 1108–20. <https://doi.org/10.1016/j.chaos.2012.05.010>.
- Zohari, M. N. A., Mohamadreza Ahmadi, and **Hamed Mojallali**. 2012. "Dynamic Sliding Mode Control of Air-to-Fuel Ratio in Internal Combustion Engines Using the Hybrid Extended Kalman Filter." *Advanced Materials Research* 433–440 (January): 2092–98. <https://doi.org/10.4028/www.scientific.net/amr.433-440.2092>.
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- Gholipour, Reza, Alireza Khosravi, and **Hamed Mojallali**. 2012b. "Intelligent Backstepping Control for Genesio-Tesi Chaotic System Using a Chaotic Particle Swarm Optimization Algorithm." *International Journal of Computer and Electrical Engineering*, January 1, 618–25. <https://doi.org/10.7763/ijcee.2012.v4.570>.
- Shafaati, Mehrnoosh, and **Hamed Mojallali**. 2012. "Modified Firefly Optimization for IIR System Identification." *Journal of Control Engineering and Applied Informatics* 14 (4): 59–69. <https://openalex.org/W2568344456>.
- Gholipour, Reza, Abdoljalil Addeh, **Hamed Mojallali**, and Alireza Khosravi. 2012. "Multi-Objective Evolutionary Optimization of PID Controller by Chaotic Particle Swarm Optimization." *International Journal of Computer and Electrical Engineering*, January 1, 833–38. <https://doi.org/10.7763/ijcee.2012.v4.614>.
- Ahmadi, Mohamadreza, **Hamed Mojallali**, and Rafael Wisniewski. 2012. "Robust H_∞ Control of Uncertain Switched Systems Defined on Polyhedral Sets with Filippov Solutions." *ISA Transactions* 51 (6): 722–31. <https://doi.org/10.1016/j.isatra.2012.06.006>.
- Ahmadi, Mohamadreza, **Hamed Mojallali**, Rafael Wisniewski, and Roozbeh Izadi-Zamanabadi. 2012. "Robust Stability Analysis of Nonlinear Switched Systems with Filippov Solutions." *IFAC Proceedings Volumes* 45 (13): 288–93. <https://doi.org/10.3182/20120620-3-dk-2025.00052>.
- Pourjafari, Ebrahim, and **Hamed Mojallali**. 2011a. "Predictive Control for Voltage Collapse Avoidance Using a Modified Discrete Multi-Valued PSO Algorithm." *ISA Transactions* 50 (2): 195–200. <https://doi.org/10.1016/j.isatra.2010.12.006>.
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- Bazrafshan, Fazel, Behnood Rasti, and **Hamed Mojallali**. 2010. *Fuzzy Modeling and Position Control of a Traveling Wave Ultrasonic Motor*. February 1, 457–61. <https://doi.org/10.1109/iccae.2010.5451244>.
- Ahmadi, Mohamadreza, and **Hamed Mojallali**. 2010. "Identification of Multiple-Input Single-Output Hammerstein Models Using Bezier Curves and Bernstein Polynomials." *Applied Mathematical Modelling* 35 (4): 1969–82. <https://doi.org/10.1016/j.apm.2010.11.008>.
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