Curriculum Vitae

Contact Information

Mohsen Sheikh-Hosseini

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Google Scholar https://scholar.google.com/citations?user=4Y6tCSgAAAAJ&hl=en

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Date of the CV Oct. 2025

Employment to Date/Work Experience

June 2015 – Present: Department of Computer and Information Technology, Institute of Science and High Technology and Environmental Sciences, Graduate University of Advanced Technology, Kerman, Iran

Academic rank: Assistant Professor

Nov. 2020 – Nov. 2024: Head of Information Technology and Computer Institute, Graduate University of Advanced Technology, Kerman, Iran

May 2025 – present: Vice President of Support at Science and Technology Park, Graduate University of Advanced Technology, Kerman, Iran

Education

Sept. 2009 – May 2014: **Ph.D.**, Electrical Engineering-Communications, Ferdowsi University of Mashhad, Mashhad, Iran

Sept. 2006 – June 2009: **M.Sc.**, Electrical Engineering-Communications, Ferdowsi University of Mashhad, Mashhad, Iran

Sept. 2001 – Nov. 2005: **B.Sc.**, Electrical Engineering-Communications, Shahid Bahonar University of Kerman, Kerman, Iran

Research Experience/Interest

- **Communications Theory:**
  - Design and performance analysis of various Single and Multicarrier waveforms (SC-FDE, OFDM, GFDM, OTFS, OTSM,...)
  - Impulsive noise channels performance analysis form both communications and information theoreticaspects
  - Applications of AI in design and resource management of telecommunications systems
- **Wireless and Wireline Communications:**
  - Cellular Communications (4G/5G/6G): performanance analysis of new waveforms, Power-Domain NOMA, RIS-NOMA and ...
  - Power Line Communications
  - Wireless Sensor Networks
- **Smart Grid Communications:**
  - Distribution Automation
  - Communications technology selection in smart grid
  - Smart grid communications standards

Teaching Experience

- **Sep. 2016 – Present: Faculty of Electrical and Computer Engineering, Graduate University of Advanced Technology, Kerman, Iran**
  - Digital Communications
  - Numerical Methods in Optimization
  - Advanced Theory of Communications
  - Information Theory
- **Dec. 2019 – June 2020: Faculty of Electrical and Computer Engineering, Shahid Bahonar University of Kerman, Kerman, Iran**
  - Cellular Communications
- **Sep. 2014 – June 2017: Faculty of Electrical and Computer Engineering, Islamic Azad University, Sirjan Branch, Sirjan, Iran**
  - Digital Communications
  - Wireless Communications
  - Advanced Theory of Communications

Peer-Reviewed Journal Papers

Selected Papers in English:

Published/Accepted:

1. **Sheikh-Hosseini, M.**, Uysal, M. (2025), Design of a Linear Precoder for PAPR Reduction of the OTFS Scheme in High Mobility Environments, IEEE Transactions on Vehicular Technology, Accepted, to be published.
2. Hasheminejad, M. **Sheikh-Hosseini, M.** (2025). Power Resource Allocation in Downlink NOMA Systems Using Joint Sum-Rate and Bit-Error-Rate Optimization. Journal of Applied Research in Electrical Engineering. doi: 10.22055/jaree.2025.48107.1141.
3. **Sheikh-Hosseini, M.**, Rahdari, F., Ghasemnezhad, H., Ahmadi, S., Uysal, M. (2025). A Comparative Performance Evaluation of OFDM, GFDM, and OTFS in Impulsive Noise Channels, IEEE Open Journal of the Communications Society, 6, 2693 - 2705.
4. Rahdari, F., **Sheikh-Hosseini, M.**, Jamshidi, M. (2025). Edge User Performance Improvement by Intelligent Reflecting Surface-Assisted NOMA System. Journal of Electrical and Computer Engineering Innovations (JECEI), 13(2), 275-282.
5. Monemizadeh, M., Samareh Hashemi, S.R., **Sheikh-Hosseini, M.**, Fehri, H. (2024). A new physics-inspired discriminative classifier. AUT Journal of Electrical Engineering, 56(3), 495-502.
6. Rahdari, F., **Sheikh-Hosseini, M.**, (2024) Nonlinear Symbolic Regression for Bit Error Rate Prediction of NOMA Systems in 5G Cellular Communications, Engineering Applications of Artificial Intelligence (EAAI), 127, 107344.
7. **Sheikh-Hosseini, M.**, Hasheminejad, M., Rahdari, F. (2023) Linear precoder design for peak-to-average power ratio reduction of generalized frequency division multiplexing signal using gradient descent methods, Transactions on Emerging Telecommunications Technologies, 34(2), e4698.
8. **Sheikh-Hosseini, M.**, Samareh Hashemi, S.R. (2022) Connectivity and Coverage Constrained Wireless Sensor Nodes Deployment Using Steepest Descent and Genetic Algorithms. Expert Systems with Applications, 190, 116164.
9. **Sheikh-Hosseini, M.**, Nosratabadi, S.M. (2021) Modelling and Optimization of Channel Allocation for Power Line Communications Access Networks in the Presence of In-Line and In-Space Interference. Journal of Electrical and Computer Engineering Innovations (JECEI), 9(1), 103-114.
10. **Sheikh-Hosseini, M.** (2019). On the Design of Coherent Zero-Forcing Receiver for the Flat Fading MIMO Multiple-Access Channels. Journal of Electrical and Computer Engineering Innovations (JECEI), 7(2), 195-204.

11. **Sheikh-Hosseini, M.**, Hodtani, G. A. (2019). On the capacity of additive white mixture Gaussian noise channels. Transactions on Emerging Telecommunications Technologies, 30(7), e3585.
12. **Sheikh-Hosseini, M.** (2018). Transceiver design for STBC transmission over MIMO multipleaccess SCFDE systems. Transactions on Emerging Telecommunications Technologies, 29(6), e3304.
13. **Sheikh-Hosseini, M.**, Hodtani, G. A., MolaviKakhki, M. (2016). Capacity analysis of power line communication pointtopoint and relay channels. Transactions on Emerging Telecommunications Technologies, 27(2), 200-215.
14. **Sheikh-Hosseini, M.**, Molavi-Kakhki, M., Hodtani, G. A. (2013). Frequency-domain equalization for orthogonal and quasi-orthogonal STBCs over frequency-selective wireless and power-line channels. Wireless personal communications, 71(4), 2445-2461.
15. **Sheikh-Hosseini, M.**, Molavi-Kakhki, M., Hodtani, G. A. (2012). Single-Carrier Frequency-Domain Equalization for Orthogonal STBC over Frequency-Selective MIMO-PLC Channels. Journal of Communication Engineering, 1(1), 1-17.
16. **Sheikh-Hosseini, M.**, Molavi-Kakhki, M. (2009). Single carrier transmission in power line channels using time and frequency domain decision feedback equalizations. International Journal of Tomography and Simulations, 12(9), 94-105.

Selected Papers in Persian (Native Language):

1. **Sheikh-Hosseini, M.**, Samareh Hashemi, S. R. (2022). Target and Areas Coverage in Wireless Sensor Networks Using Analytical and Evolutionary Algorithms. Computational Intelligence in Electrical Engineering, 13(1), 39-54.
2. **Sheikh-Hosseini, M.** (2019). Evolution of power line communications: From a fixed telephone system to telecommunication technology of smart energy grid. Majallah-i Amuzih-i Muhandisi-i Iran, 20(80), 71-4.
3. **Sheikh-Hosseini, M.**, Ebrahimi Meymand, S. (2019). Performance Improvement of FFT-OFDM for Impulsive Noise Communications Channels Using Wavelet Transforms and Noise Mitigation Methods.

Conference Papers

1. Rahdari, F., **Sheikh-Hosseini, M.** (2024). A Machine Learning Approach for Bit Error Rate Modeling in Impulsive Noise-Impaired IRS-NOMA Systems. In 2024 19th Iranian Conference on Intelligent Systems (ICIS) (pp. 185-188). IEEE.

2. **Sheikh-Hosseini, M.**, Ahmadi S. (2022). Performance analysis of OFDM and GFDM techniques over additive white impulsive noise channels. In 2022 6th International Conference on Millimeter-Wave and Terahertz Technologies (MMWaTT) (pp. 1-5). IEEE.

3. **Sheikh-Hosseini, M.**, Molavi Kakhki, M. (2009). Comparison of OFDM and Single Carrier Transmission in Power Line Communications. In Tenth International Symposium on Communication Theory and Applications (ISCTA2009), UK.

Projects

External Research Grants as (Co-)Principal Investigator:

June 2022 – June 2024 — Preparation of instruction and guidelines for the selection of the optimal telecommunication infrastructure for distribution automation

Role: *Principal Investigator*

Related organization: *Iran's Power Generation, Distribution, and Transmission Company (Tavanir)*

June 2022 – Sep. 2023 — Comprehensive management of characterization, providing technical data and ITP, providing list of reliable manufactures, reverse engineering and supervision on manufacturing of polymeric part

Role: *Co-Principal Investigator*

Related organization: *National Iranian Copper Industries Company-Sarcheshmeh Copper Complex*

June 2024 – Sep. 2025 — Design and Development of Polymeric Impact- and Wear-Resistant Sheets as a Substitute for Hardox Plates in 136-Ton Mining Trucks

Role: *Co-Principal Investigator*

Related organization: *National Iranian Copper Industries Company-Sarcheshmeh Copper Complex*

Internal Research Grants as (Co-)Principal Investigator:

2024 –present — Modeling and analysis of bit error rate for uplink IRS-NOMA systems using machine learning tools

Role: *Principal Investigator*

2023 –2024 — Design and development of a new algorithm for PAPR reduction of OTFS modulation over doubly dispersive channels of 5G/6G cellular networks

Role: *Principal Investigator*

2020 – 2021 Development of telecommunications models for 5G cellular networks based on Gradient descent methods

Role: *Principal Investigator*

2018 – 2019 A New Approach for Wireless Sensor Network Node Deployment Based on Coverage and Connectivity Maximization

Role: *Principal Investigator*

2018 – 2019 Optimum Resource Allocation for Broadband Power Line Communications Access Network

Role: *Principal Investigator*

2017 – 2018 Differential Entropy and Capacity Analysis for Additive Gaussian Mixture Noise

Role: *Principal Investigator*

2016 – 2017 Multiuser detection for the combination of single-carrier frequency-domain equalization and space-time block codes techniques in frequency-selective channels

Role: *Principal Investigator*

2022 – Present Development of a fuzzy model to improve the performance of IRS-NOMA system in 5G/6G networks

Role: *Research Assistant*

2021 – 2022 Networks Radio Resource Management in NOMA System using Intelligent Techniques

Role: *Research Assistant*

2019 – 2020 Performance Analysis and Evaluation of NOMA System in 5G Cellular Networks

Role: *Research Assistant*

Journal Review Activity

1. IEEE Journal on Selected Areas in Communications
2. Transactions on Emerging Telecommunications Technologies
3. IEEE Transactions on Communications
4. IEEE Access
5. IEEE Communications Letters
6. International Journal of Machine Learning and Cybernetics
7. Scientia Iranica

8. Annals of Telecommunications
9. IEEE MultiMedia
10. IEEE Transactions on Vehicular Technology
11. Computers and Electronics in Agriculture
12. International Journal on Communications Antenna and Propagation
13. Journal of Advanced Signal Processing
14. Journal of Nonlinear Systems in Electrical Engineering
15. Journal of Iranian Association of Electrical and Electronics Engineers
16. ...

Talks

Dec. 2024 Institute of Science and High Technology and Environmental Sciences, Graduate University of Advanced Technology, Kerman, Iran

Talk: *6G: The Intelligent Network of Everything-Research Opportunities based on Interdisciplinary Collaborations*

Dec. 2022 12th Smart Grid Conference (SGC2022), Kerman, Iran

Talk: *Smart Grid Communication Infrastructure: Survey and Practical Comparison*

Nov. 2020 Institute of Science and High Technology and Environmental Sciences, Graduate University of Advanced Technology, Kerman, Iran

Talk: *PLC-VLC Technology: Introduction, Applications and Challenges*

June 2018 The Kerman Electricity Distribution Company, Kerman, Iran

Talk: *The Role of Power Line Communications in The Smart Grid*

Dec. 2017 Department of Computer and Information Technology, Institute of Science and High Technology and Environmental Sciences, Graduate University of Advanced Technology, Kerman, Iran

Talk: *Information-Theoretic Study of Power Line Communications*

Mentoring and Advising

Graduate University of Advanced Technology, Kerman, Iran:

2025 – **Melika Khorami**, *Title of thesis: Malware Detection in Industrial Internet of Things (IIoT) Networks Based on Machine Learning Methods*.

2023 – **Mohammadreza Mosapour**, *Title of thesis: Designing the optimal movement path for border coverage in wireless sensor networks*.

2021 – **Somayeh Ahmadi**, *Title of thesis: Performance evaluation and analysis of 5G wave forms over impulsive noise telecommunication channels*.

2021 – **Khatereh Erfanifar**, *Title of thesis: Performance evaluation of hybrid PLC-VLC systems based on different impulsive noise models*.

2020 – **Hossein Soltani Bonavandi**, *Title of thesis: Design and Implementation of Digital Wireless Telecommunication System Using ETTUS-E312 Radio Board*.

Islamic Azad University, Sirjan Branch, Sirjan, Iran:

2018 – **Sarvar Ebrahimi Meymand**, *Title of thesis: Performance Comparison of Different OFDM Schemes for Broadband Power Line Communication Channels in the Presence of Impulsive Noise*.

2017 – **Fathieh Dadbin**, *Title of thesis: Performance Evaluation and quality of service improvementfor the Kerman Mobile Networks Using Key Performance Indicators* .

2014 – **Hossein Vafaei Bakiani**, *Title of thesis: Optimization of k-coverage Problem in Wireless Sensor Networks Using Evolutionary Algorithm*.

Islamic Azad University, Kerman Branch, Kerman, Iran:

2016 – **Sareh Saljoughi**, *Title of thesis: Sensor localization in Wireless Sensor Networks Using Pareto Multi-objective Optimization Method* .

Technical Skills

Programming	Matlab, Python
Software	LaTeX, XePersian, Office
Languages	Persian, English