



Mohammad Fathi

Curriculum vitae
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Current Position Associate Professor
Department of Electrical Engineering
University of Kurdistan
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Education

- *Ph.D.* in Electrical Engineering, Amirkabir University of Technology, Tehran, Iran, 2006–2010. Thesis: “Resource Allocation Optimization in OFDMA Wireless Networks”.
- *M.Sc.* in Electrical Engineering, Amirkabir University of Technology, Tehran, Iran, 2001–2003.
- *B.Sc.* in Biomedical Engineering, Shahid Beheshti University, Tehran, Iran, 1997–2001.

Research Interests

- Wireless Communications and Networking
 - Wireless resource allocation and optimization
 - Cognitive radio networks
 - Wireless sensor networks and automation
- Smart Grid
 - Smart grid communications
 - Distributed economic dispatching
 - Demand response
- Wireless body area networks

Professional Activities

Member:

- Institute of Electrical and Electronic Engineers (IEEE)
- IEEE Communications Society

Reviewer:

- IEEE Transactions on Vehicular Technology (VTC)
- International Journal of Digital Multimedia Broadcasting

Professional Records

- Associate Professor, Department of Electrical Engineering, University of Kurdistan, Sanandaj, Iran, Nov. 2015 to present.
- Head of Department, Department of Electrical Engineering, University of Kurdistan, Sanandaj, Iran, Sep. 2012 to Sep. 2014.
- Assistant Professor, Department of Electrical Engineering, University of Kurdistan, Sanandaj, Iran, Jan. 2011 to Nov. 2015.
- Visiting PhD student, Communication Theory Laboratory, Royal Institute of Technology (KTH), Stockholm, Sweden, Feb. 2010 to Nov. 2010.
- Research Assistant, Networking Lab., Department of Electrical Engineering, Amirkabir University of Technology, Tehran, Iran, 2006–2009.
- Research Assistant, Iran Telecommunications Research Center, Sept. 2008 to Feb. 2009.
- Faculty Member, Department of Electrical Engineering, Azad University of Bojn-zahra, Iran, Sept. 2007 to Feb. 2010.
- Lecturer, Department of Electrical Engineering, University of Kurdistan, Sanandaj, Iran, 2003–2006.
- Electronic Circuits Designer, Nedaye Micro Electronic, Tehran, Iran, 2002–2003.

Honors

- Ranked first in the PhD entrance examination at Amirkabir University of Technology, Tehran, Iran. 2006.
- Ranked first among the B.Sc. Biomedical Engineering graduated of Shahid Beheshti University, Tehran, Iran, 2001.
- Among the Top-100 students selected for the International Computer Olympiad, Iran, 1996.
- Ranked first in the Diploma final examinations in the Province of Kurdistan, Iran, 1997.

Journal Publications

1. M. Fathi, “A Spectrum Allocation Scheme Between Smart Grid Communication and Neighbor Communication Networks,” *IEEE Systems Journal*, Accepted for publication.
2. M. Fathi and E. Karipidis, “Distributed allocation of subcarrier, power, and bit level in multicell OFDMA networks,” *IET Communications*, vol. 8, no. 6, pp. 781–788, Apr. 2014.
3. M. Fathi and V. Maihami, “Operational state scheduling of relay nodes in two-tiered wireless sensor networks,” *IEEE Systems Journal*, vol. 9, no. 3, pp. 686–693, Sept. 2015.

4. M. Fathi “Price-based spectrum sharing and rate allocation in multicarrier wireless networks,” *IET Networks*, vol. 3, no. 4, pp. 252–258, Nov. 2014.
5. M. Fathi and H. Bevrani, “Adaptive energy consumption scheduling for connected microgrids under demand uncertainty,” *IEEE Transactions on Power Delivery*, vol. 28, no. 3, pp. 1576-1583, Jul. 2013.
6. M. Fathi, V. Maihami, and P. Moradi, “Reinforcement learning for multiple access control in wireless sensor networks: review, model, and open issues,” *Wireless Personal Communications*, vol. 72, no. 1, pp. 535-547, Jan. 2013.
7. M. Fathi and H. Bevrani, “Statistical cooperative power dispatching in interconnected microgrids,” *IEEE Transactions on Sustainable Energy*, vol. 4, no. 3, pp. 586-593, Jul. 2013.
8. M. Fathi, H. Taheri, and M. Mehrjoo, “Utility maximization in channel-aware and queue-aware OFDMA scheduling with arrival rate control,” *IET Communications*, vol. 6, no. 2, pp. 235–241, Jan. 2012.
9. M. Fathi, H. Taheri, and S. Rashidi, “Dynamic joint scheduling and call admission control for IEEE 802.16 networks,” *Springer Telecommunication Systems*, vol. 52, no. 1, pp. 195–202, Jan. 2013.
10. M. Fathi, H. Taheri, and M. Mehrjoo, “Cross-layer joint rate control and scheduling for OFDMA wireless mesh networks,” *IEEE Transactions on Vehicular Technology*, vol. 59, no. 8, pp. 3933-3941, Oct. 2010.
11. M. Fathi and H. Taheri, “Utility-based resource allocation in orthogonal frequency division multiple access networks,” *IET Communications*, vol. 4, no. 12, pp. 1463-1470, Aug. 2010.

Conference Publications

1. M. Fathi, H. Bevrani, “Wireless networking of smart meters in next generation power systems,” in Proc. *2nd International scientific conference*, Sulaimani, Kurdistan region of Iraq, Apr. 15-16, 2015. (Best Paper Award)
2. A. Sadeghi, M. Fathi, and A. Fereidunian, “Data communications challenges in smart grid,” in Proc. *Smart Grid Conference (SGC'14)*, Tehran, Iran, Dec. 9-10, 2014.
3. A. Bozorgpanah, M. Fathi, and A. Abdollahpouri, “Wireless sensor network performance analysis to monitor renewable energy sources,” in Proc. *Smart Grid Conference (SGC'14)*, Tehran, Iran, Dec. 9-10, 2014.
4. V. Maihami, Sh. Fathi, and M. Fathi, “An energy efficient scheduling scheme in wireless sensor networks,” in Proc. *International symposium on Telecommunications (IST)*, Tehran, Iran, Nov. 6-8, 2012.

5. M. Fathi, H. Bevrani, "Adaptive price-based power flow in next generation electric power systems," in Proc. *International symposium on Smart Grid, Operation and Control (ISSGOC)*, Sanandaj, Iran, Oct. 17-18, 2012.
6. M. Fathi and M. Gholami, "Localized demand-side management in electric power systems," in Proc. *Iranian Conference on smart grid*, Tehran, Iran, May 23-24, 2012.
7. V. Maihami, M. Fathi, "Wireless sensor network localization using neural network," in Proc. *Iranian Conference on Electrical Engineering (ICEE)*, Tehran, May 15-17, 2012.
8. M. Fathi, H. Taheri, "A game-theoretic approach to spectrum sharing in multi-hop multicarrier networks," in Proc. *International Conference on Telecommunications (ICT)*, Lebanon, Apr. 23-25, 2012.
9. M. Fathi and E. Karipidis, "Distributed resource optimization in multicell OFDMA networks," in Proc. *IEEE Wireless Communications and Networking Conference (WCNC)*, Paris, France, Apr. 1-4, 2012.
10. M. Fathi, M. Mehrjoo, and H. Taheri, "A stability-based scheduling scheme for OFDMA networks," in Proc. *IEEE ISWPC*, 2010.
11. S. Rashidi, H. Taheri, M. Sabaghi, and M. Fathi, "A new call admission control algorithm for IEEE 802.16 networks," *International Conference on Computer Design and Applications*, pp. 361-356, Jun. 2010.
12. M. Fathi, M. Mehrjoo and H. Taheri, "A joint channel-aware and queue-aware scheduling in OFDM networks," *International Symposium on Telecommunications (IST)*, Tehran, August 2008.
13. M. Fathi and H. Taheri, "Queuing analysis for dynamic bandwidth allocation in IEEE 802.16 standard," *International Symposium on wireless Pervasive Computing*, Santorini, Greece, May 2008.
14. A. Fakoorian, H. Taheri, and M. Fathi, "Channel management Based on Maximizing of Customers' Satisfaction and Service Providers' Revenue," *International Symposium on wireless Pervasive Computing, Santorini*, Greece, May 2008.
15. M. Fathi, H. Taheri, "A Comparison between One-pass and Three-pass JPEG-LS Image Compression," *Proceeding of Visualization and Imaging Conference*, Spain, Aug. 2006.
16. M. Fathi, H. Taheri, "Three-pass JPEG-LS Image Compression," *Proceeding of 4th International Symposium CSNDSP*, University of Newcastle upon Tyne, 2004.

Research Projects

- Frequency Sharing in Cellular Communication Networks, University of Kurdistan, 2011.
- Technical Requirements of Telemedicine Centers, Kurdistan Province, 2006.
- Design and Implementation of Microcontroller Programmers, University of Kurdistan, 2005.

Teaching Experience

Undergraduate Courses

- Signals and Systems
- Communications Systems
- Digital Communications
- Computer Networks
- Technical English for Electrical Engineering Students
- Linear Control Systems
- Pulse Technique Circuits

Graduate Courses

- Stochastic Processes
- Modern Control
- Convex Optimization
- Wireless communications and Networking
- Advanced Computer Networks
- Digital Signal Processing

Supervised Thesis

M.S.

1. Amir Sadeghi, "Traffic Scheduling and Scalable Communication Architectures for Cognitive Radio-Based Smart Grid," M.Sc. Thesis, University of Kurdistan, Sanandaj, Iran, 2015.
2. Mazyar Mohammadi, "Clock Tree Synthesis in Low Power Design of Digital Circuits," M.Sc. Thesis, University of Kurdistan, Sanandaj, Iran, 2014.
3. Bahare Afkhmai, "Wireless Sensor Network Performance Analysis in Smart Grid Communications," M.Sc. Thesis, Islamic Azad University, Sanandaj, Iran, 2013.
4. Neda Ghafari, "Quality of Service Requirements in Smart Grid Communications," M.Sc. Thesis, Islamic Azad University, Sanandaj, Iran, 2013.
5. Vafa Maihami, "Distributed Learning Based MAC Protocol Design in Wireless Sensor Networks," M.Sc. Thesis, University of Kurdistan, Sanandaj, Iran, 2012.

Ph.D.

References

- Hassan Taheri (Ph.D. thesis advisor), Associate Professor, Department of Electrical Engineering, Amirkabir University of Technology, Tehran, Iran.
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- Eleftherios Karipidis, Assistant Professor, Department of Electrical Engineering, Linköping University, Sweden, *E-mail:* karipidis@isy.liu.se.
<http://www.commsys.isy.liu.se/en/staff/karipidis>.
- Hassan Bevrani, Associate Professor, Department of Electrical Engineering, Sanandaj, Iran, *E-mail:* bevrani@ieee.org.
<http://www.bevrani.com/Hassan.htm>.