

Personal Information

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Assistant Professor

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Education	Year	Degree	University
	2012/1 ~ 2014/12	Ph.D., Electrical Engineering <i>Thesis: Multi-Functional Distributed Secondary Control of Microgrids</i>	Dept. Energy Technology, Aalborg University, Aalborg, Denmark.
	2004/9 ~ 2007/3	M.Sc., Electrical Engineering <i>Thesis: Design and Implementation of a Multi-Variable Nonlinear Predictive Controller</i>	Dept. Electrical Engineering, Iran University of Science & Technology, Tehran, Iran.
	2000/9 ~ 2004/9	B.Sc., Electrical Engineering <i>Thesis: Reactive Power Control in Distribution Electrical Networks</i>	Dept. Electrical Engineering, Razi University, Kermanshah, Iran.

Work Experiences	Year	Position	University/Organization
	2017/6 ~ now	Assistant Director	International Relations and Scientific Cooperation Office, University of Kurdistan, Sanandaj, Iran.
	2016/2 ~ now	Assistant Professor	Dept. Electrical and Computer Engineering, University of Kurdistan, Sanandaj, Iran.
	2015/3 ~ 2016/1	Postdoctoral Fellow	Dept. Energy Technology, Aalborg University, Aalborg, Denmark.
	2014/3 ~ 2014/7	Visiting Researcher	Dept. Electrical Engineering, University of Texas at Arlington, Texas, US.
	2007/9 ~ 2011/8	Lecturer	Dept. Electrical and Computer Eng., University of Kurdistan, Sanandaj, Iran.
	2007/2 ~ 2007/6	Lecturer	Azad University, Kermanshah Branch, Kermanshah, Iran.

Professional Activities	Year	Position	University/Organization
	2016/4 ~ now	Counselor at University of Kurdistan IEEE Student Branch.	IEEE Iran Section, Tehran, Iran.
	2016	Guest Associate Editor Special Issue on Structured DC Microgrids, <i>IEEE Journal of Emerging</i>	IEEE

and Selected Topics in Power Electronics.

2011 ~ now	<p>Reviewer</p> <ul style="list-style-type: none"> ▪ <i>IET Generation, Transmission and Distribution (IET)</i> ▪ <i>IEEE Transactions on Power Systems</i> ▪ <i>IEEE Transactions on Energy Conversion</i> ▪ <i>IEEE Transactions on Smart Grids</i> ▪ <i>IEEE Transactions on Industrial Electronics</i> ▪ <i>IEEE Transactions on Power Electronics</i> ▪ <i>IEEE Transactions on Sustainable Energy</i> <p>Membership</p> <ul style="list-style-type: none"> ▪ Senior Member, IEEE ▪ PELS, IAS, PES Societies, IEEE ▪ West Branch IAEEE 	IEEE IEEE IAEEE, Tehran, Iran
2016 ~ now	<p>Lab Founder, Smart/Micro Grid Lab</p> <p>Establishing Smart/Micro Grid Research Lab in cooperation with Prof. H. Bevrani.</p>	Smart/Micro Grid Research Center, University of Kurdistan, Sanandaj, Iran.
2012 ~ 2015	<p>Lab Establishment, iMGlub</p> <p>Active participation in establishing the Intelligent Microgrid Lab, Microgrid Research Group, Aalborg University.</p>	Microgrid Research Programme, Dept. Energy Technology, Aalborg University, Aalborg, Denmark.

Awards	Year	Title	University/Organization
	2015	Awarded Postdoc scholarship	Dept. Energy Technology, Aalborg University, Aalborg, Denmark.
	2014	Awarded visiting scholar scholarship	Dept. Electrical Engineering, UT Arlington, Texas, US.
	2012	Awarded PhD scholarship	The Ministry of Science, Research and Technology of Iran.

Research Projects	Year	Project	University
	2015/3 ~ 2015/12	<p><i>Flexible Electric Vehicle Charging Infrastructure Flex –ChEV</i></p> <p>Role: Full-time Postdoc</p> <p>Contribution towards providing ancillary services by EV charging stations.</p> <p>Funded by SmartGrids ERA-Net, 2014 – 2016.</p>	Dept. Energy Technology, Aalborg University, Aalborg, Denmark.
	2013/6 ~ 2013/12	<p><i>Control and Management of Multi-Microgrid Clusters in Taiwan</i></p> <p>Role: Active participation in design and</p>	Dept. Energy Technology, Aalborg University, Aalborg, Denmark.

	implementation of secondary control for the microgrid application. Funded by Institute of Energy Research (INER), Taiwan, 2013-2014.	
2009/4 ~ 2010/1	<i>Model Predictive Load Frequency Control of Power Systems</i> Role: Project Manager Funded by University of Kurdistan, Iran, 2009-2010.	Dept. Electrical and Computer Engineering, University of Kurdistan, Sanandaj, Iran.
2010/3 ~ 2011/1	<i>Design and Implementation of Adaptive Single Phase Auto-Reclosure for Iran High Voltage Transmission Lines</i> Role: Project Manager Funded by University of Kurdistan, Iran, 2010-2011.	Dept. Electrical and Computer Engineering, University of Kurdistan, Sanandaj, Iran.

Teaching Experiences	Year	Courses	University
	2017/4	Invited Lecturer in PhD/Industrial Courses on AC Microgrids	Dept. Energy Technology, Aalborg University, Aalborg, Denmark.
	2012 ~ 2015	Teaching assistant in PhD/Industrial Courses on: <ul style="list-style-type: none"> ▪ AC Microgrids ▪ DC Microgrids & Supergrids ▪ Communication for Microgrids ▪ Power Quality in Microgrids 	Dept. Energy Technology, Aalborg University, Aalborg, Denmark.
	2007 ~ 2011 & 2016~now	Teaching under graduate and post graduate courses: <p>Under Graduate courses:</p> <ul style="list-style-type: none"> ▪ Linear Control Systems ▪ Linear Control Systems Lab ▪ Industrial Control ▪ Engineering Mathematics ▪ Electronic circuits application (Electronic II & Electronic III) ▪ English for Electrical Eng. Students <p>Post Graduate Courses:</p> <ul style="list-style-type: none"> ▪ Model Predictive Control (PhD & MSc.) ▪ Microgrids (PhD & MSc.) ▪ Optimal Control (PhD & MSc.) ▪ How to Write Scientific Papers (MSc.) 	Dept. Electrical and Computer Engineering, University of Kurdistan, Sanandaj, Iran.
	2007/2 ~ 2007/6	Teaching under graduate courses <ul style="list-style-type: none"> ▪ Signals and Systems ▪ Engineering Mathematics 	Azad University, Kermanshah Branch, Kermanshah, Iran.

Research Areas

- Microgrids, Distributed Generation Systems, and Renewable Energies
- Modeling and control of power electronic systems
- Model Predictive Control, Distributed Control

Teaching Areas

- Linear Control Systems, • Engineering Mathematics, • Modern Control Systems, • Model Predictive Control, • Optimal Control, • Microgrids, • Power Electronics for Renewable Energy Resources

Summary of Scientific Publications

Year	Type	Number
Since 2011	Number of Journal Papers	12
	Number of Conference Papers	22
Since 2011	Citation (6/15/2017):	
	In <i>Google Scholar</i>	813 (h-index: 11)
	In <i>Scopus</i>	511 (h-index: 10)

Publications

Journal Papers

1. L. Meng; **Q. Shafiee**; G. Ferrari Trecate; H. Karimi; D. Fulwani; X. Lu; J. M. Guerrero, "Review on Control of DC Microgrids," in *IEEE Journal of Emerging and Selected Topics in Power Electronics*, doi: 10.1109/JESTPE.2017.2690219
2. **Q. Shafiee**, V. Nasirian, J. C. Vasquez, J. M. Guerrero, and A. Davoudi, "A Multi-Functional Fully Distributed Control Framework for AC Microgrids", *IEEE Transactions on Smart Grids*, to 10.1109/TSG.2016.2628785.
3. M. S. Golsorkhi, **Q. Shafiee**, D. Lu, J. M. Guerrero, "A Distributed Control Framework for Integrated Photovoltaic-Battery Based Islanded Microgrids" *IEEE Transactions on Smart Grids*, 10.1109/TSG.2016.2593030.
4. M. S. Sadabadi, **Q. Shafiee**, A. Karimi, "Plug-and-play Voltage Stabilization in Inverter-interfaced Microgrids via a Robust Control Strategy" *IEEE Transactions on Control Systems Technology*, vol. 25, no. 3, pp. 781-791, May 2017.
5. P. Babahajiani, **Q. Shafiee**, H. Bevrani, "Intelligent Demand Response Contribution in Frequency Control of Multi-area Power Systems" *IEEE Transactions on Smart Grids*, DOI: 10.1109/TSG.2016.2582804.
6. V. Nasirian, **Q. Shafiee**, J. M. Guerrero, F. L. Lewis, A. Davoudi, "Droop-free Distributed Control for AC Microgrids", *IEEE Transactions on Power Electronics*, vol. 31, no.2, pp.1600–1617, Feb. 2016.
7. J. W. Simpson-Porco, **Q. Shafiee**, F. Dorfler, J. C. Vasquez, J. M. Guerrero, and F. Bullo, "Secondary Frequency and Voltage Control of Islanded Microgrids via Distributed Averaging", *IEEE Transactions on Industrial Electronics*, vol. 62, no.11, pp.7025–7038, Nov. 2015.
8. **Q. Shafiee**, T. Dragicevic, J. C. Vasquez, J. M. Guerrero, "Hierarchical Control of Multiple DC-Microgrids Clusters", *IEEE Transactions on Energy Conversion*, vol.29, no.4, pp. 922–933, Dec. 2014.
9. **Q. Shafiee**, C. Stefanovic, T. Dragicevic, P. Popovski, J. C. Vasquez, and J. M. Guerrero, "Robust Networked Control Scheme for Distributed Secondary Control of Islanded Microgrids", *IEEE Transactions on Industrial Electronics*, vol. 61, no.10, pp.5363–5374, Oct. 2014.
10. **Q. Shafiee**, J. M. Guerrero, J. C. Vasquez, "Distributed Secondary Control for Islanded Microgrids - A Novel Approach", *IEEE Transactions on Power Electronics*, vol.29, no.2, pp.1018–1031, Feb. 2014.

11. M. Jannati, **Q. Shafiee**, K. Nasri, "A Novel Algorithm to adaptive Single Phase Auto-Recloser Scheme for EHV Power Transmission Lines; Simulation and Implementation", *International Review of Electrical Engineering*, vol. 4, no. 5, 2009.
12. **Q. Shafiee**, M.M. Arefi, M.R. Jahed-Motlagh, A.A. Jalali, "Nonlinear predictive control of a polymerization reactor based on piecewise linear Wiener model," *Chemical Engineering Journal*, vol. 143, no. 1-3, pp. 282-292, Sept. 2008.

Conference Papers, Reports, and Invited Speech

1. Y. Khayat, M. Naderi, **Q. Shafiee**, Y. Batmani, M. Fathi and H. Bevrani, "Robust control of a DC-DC boost converter: H₂ and H_∞ techniques," *2017 8th Power Electronics, Drive Systems & Technologies Conference (PEDSTC)*, Mashhad, 2017, pp. 407-412.
2. T. Martinsen *et al.*, "Improved grid operation through power smoothing control strategies utilizing dedicated energy storage at an electric vehicle charging station," *CIREC Workshop 2016*, Helsinki, 2016, pp. 1-4.
3. A. Anvari-Moghadam, **Q. Shafiee**, J. C. Vasquez, and J. M. Guerrero, "Optimal Adaptive Droop Control for Effective Load Sharing in AC Microgrids" *42nd Annual Conference of the IEEE Industrial Electronics Society (IECON2016)*, Oct., 2016, Florence, Italy.
4. M. S. Golsorkhi, **Q. Shafiee**, D. Lu, J. M. Guerrero, "Distributed Voltage Control and Load Sharing for Inverter-Interfaced Microgrid with Resistive Lines" *8th Annual IEEE Energy Conversion Congress & Exposition (ECCE)*, Sept., 2016, Milwaukee, US.
5. S. Ahmadi, D. Nazarpour, **Q. Shafiee** and H. Bevrani, "A fuzzy inference model for distributed secondary control of islanded microgrids," *2016 24th Iranian Conference on Electrical Engineering (ICEE)*, Shiraz, 2016, pp. 1233-1238.
6. A. Fathi, **Q. Shafiee**, H. Bevrani, "Robust Frequency Control of Islanded Microgrids Using an Extended Virtual Synchronous Generator" *IEEE conference on new research achievements in electrical and computer engineering*, May 12, 2016, Tehran, Iran.
7. P. Babahajiani, **Q. Shafiee**, H. Bevrani, "Demand Response and Intelligent secondary frequency control coordination in a multi-area power system" *IEEE conference on new research achievements in electrical and computer engineering*, May 12, 2016, Tehran, Iran.
8. O. Sarchami, H. Bevrani, **Q. Shafiee** "An Under Voltage-Frequency Load Shedding Method for Emergency Condition of Microgrids" *IEEE conference on new research achievements in electrical and computer engineering*, May 12, 2016, Tehran, Iran.
9. B. Badmasti, H. Bevrani, **Q. Shafiee** "Application of Imperialist Competitive Algorithm for Decentralized Load-Frequency Control" *IEEE conference on new research achievements in electrical and computer engineering*, May 12, 2016, Tehran, Iran.
10. **Q. Shafiee**, "An Introduction to IEEE", Invited speech in IEEE University of Kurdistan Student Branch, Sanandaj, Iran, May 31, 2016.
11. **Q. Shafiee**, "Microgrid Laboratory Facilities", Invited speech, University of Kurdistan, Sanandaj, Iran, February 21, 2016.
12. M. Savaghebi, **Q. Shafiee**, J. C. Vasquez, J. M. Guerrero, "Adaptive virtual impedance scheme for selective compensation of voltage unbalance and harmonics in microgrids", *Power and Energy Society General Meeting*, Denver, US, July 2015, pp. 1-5.
13. **Q. Shafiee**, V. Nasirian, J. C. Vasquez, J. M. Guerrero, A. Davoudi, "Cooperative frequency control for autonomous AC microgrids", *Power and Energy Society General Meeting*, Eindhoven, NL, June 2015, pp. 1-6.
14. V. Nasirian, **Q. Shafiee**, J. M. Guerrero, F. L. Lewis, A. Davoudi, "Droop-free Team-oriented Control for AC Distribution Systems", *APEC15*, Charlotte, US, 2015, pp. 2911-2918.
15. **Q. Shafiee**, "Recent Activities on Microgrids: Research and Development", Invited speech, Razi University, Kermanshah, Iran, February, 2015.

16. **Q. Shafiee**, “Recent Activities on Microgrids: Research and Development”, Invited speech, University of Kurdistan, Sanandaj, Iran, February, 2016.
17. **Q. Shafiee**, T. Dragicevic, F. Andrade, J. Vasquez, J. M. Guerrero, “Distributed Consensus-Based Control of Multiple DC-Microgrids Clusters”, *IECON14*, Dallas, US, Oct. 2014, pp. 2056-2062.
18. **Q. Shafiee**, V. Nasirian, J. M. Guerrero, F. L. Lewis, A. Davoudi “Team-oriented Adaptive Droop Control for Autonomous AC Microgrids”, *IECON14*, Dallas, US, Oct. 2014, pp. 1861-1867.
19. **Q. Shafiee**, T. Dragicevic, J. C. Vasquez, J. M. Guerrero, “Modeling, Stability Analysis and Active Stabilization of Multiple DC-Microgrids Clusters”, *EnergyCon14*, Dubrovnik, Croatia, May 2014, pp. 1284-1290.
20. **Q. Shafiee**, T. Dragicevic, J. Vasquez, J. M. Guerrero, “Hierarchical Control for Multiple DC-Microgrids Clusters”, *SSD14*, Barcelona, Spain, Feb. 2014.
21. T. Dragicevic, **Q. Shafiee**, D. Wu, L. Meng, J. C. Vasquez, J. M. Guerrero “Modeling and Control of Flexible HEV Charging Station upgraded with Flywheel Energy Storage”, *SSD14*, Barcelona, Spain, Feb. 2014.
22. J. W. Simpson-Porco, F. Dorfler, F. Bullo, **Q. Shafiee**, J. M. Guerrero, “Stability, Power Sharing, & Distributed Secondary Control in Droop-Controlled Microgrids.”, *SmartGridComm13*, Vancouver, Canada, 2013, pp. 672-677.
23. **Q. Shafiee**, T. Dragicevic, J. Vasquez, J. M. Guerrero, C. Stefanovic, P. Popovski, “A Novel Robust Communication Algorithm for Distributed Secondary Control of Islanded MicroGrids”, *ECCE13*, Colorado, US, Sep. 2013, pp. 4609-4616.
24. **Q. Shafiee**, J. Vasquez, J. M. Guerrero, “Distributed secondary control for islanded MicroGrids - A networked control systems approach”, *IECON12*, Montreal, Canada, Oct. 2012, pp. 5637–5642.
25. **Q. Shafiee**, A. Morattab, H. Bevrani, “Decentralized model predictive load-frequency control for multi-area interconnection power systems,” in *Proc. of 19th Iranian Conference on Electrical Engineering*, Oct. 2011.
26. A. Morattab, **Q. Shafiee**, H. Bevrani, “Decentralized Model Predictive Load Frequency Control of deregulated power systems in tough situations,” *PowerTech11*, Trondheim, Norway, June 2011, pp. 1-5.
27. **Q. Shafiee** and H. Bevrani, Power system load-frequency predictive control, Technical report (in Persian), University of Kurdistan, Sanandaj, Iran, June 2010.
28. **Q. Shafiee**, M.M. Arefi, A.A. Jalali, M.R. Jahed-Motlagh, “Nonlinear Predictive Control of a pH neutralization Process Based on Piecewise Linear Wiener Models,” *Proc. on 11th national Conference of Iranian chemical engineering*, Nov. 2006. (In Persian)
29. **Q. Shafiee**, M.M. Arefi, M.R. Jahed-Motlagh, A.A. Jalali, “Model Predictive Control of a Highly Nonlinear Process Based on Piecewise Linear Wiener Models,” *IEEE Proc. on E-Learning in Industrial Electronics*, Pages: 113-118, Hammamet, Tunisia, 18-20 Dec. 2006.