



## **FARROKH AMINIFAR**

**(PH.D., IEEE SENIOR MEMBER)**

### **Senior Research Associate**

Robert W. Galvin Center for Electricity Innovation  
Illinois Institute of Technology, Chicago, Illinois

#### **PERSONAL INFORMATION**

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- **Birth:** September 16, 1983
- **Cell:** +1-312-568-6789
- **E-mails:** frkh\_aminifar@yahoo.co.uk

#### **FIELDS OF INTEREST**

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- Wide Area Monitoring, Protection, and Control (WAMPAC)
- Flexibility and Resilience Assessment of Power Systems
- Data-Driven Micro PMU Applications
- Cyber-Physical Systems Modeling and Analysis

#### **PAST APPOINTMENTS**

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<b>2017-2019</b>	Associate Professor, School of Electrical and Computer Engineering, University of Tehran, Iran
<b>2016-2019</b>	Head, Power Engineering Department, University of Tehran, Iran
<b>2012-2017</b>	Assistant Professor, School of Electrical and Computer Engineering, University of Tehran, Iran
<b>2011-2012</b>	Research Fellow, Electrical Engineering Department, University of Texas, Arlington, TX
<b>2010-2011</b>	Postdoctoral Fellow, Electrical Engineering Department, Sharif University of Technology, Tehran, Iran
<b>2009-2010</b>	Research Associate, Electrical and Computer Engineering Department, Illinois Institute of Technology, Chicago, IL, USA

#### **EDUCATION**

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<b>2007-2010</b>	Ph.D. in Electrical Engineering, Sharif University of Technology, Tehran, Iran, GPA: 19.83/20.  Dissertation Topic: "Probabilistic Placement of Phasor Measurement Units (PMUs) for Power Network Observability"  Supervisor: Dr. Mahmud Fotuhi-Firuzabad  Advisor: Dr. Mohammad Shahidehpour
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- 2005-2007** M.S. in Electrical Engineering, Sharif University of Technology, Tehran, Iran, GPA: 19.33/20 (Honor).  
Thesis Topic: "Reliability Constrained Unit Commitment"  
Supervisor: Dr. Mahmud Fotuhi-Firuzabad
- 2001-2005** B.S. in Electrical Engineering, Iran University of Science and Technology, Tehran, Iran, GPA: 17.66/20 (Honor).

## HONORS AND AWARDS

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- Distinguished Researcher Award, College of Engineering, University of Tehran, 2019
- Outstanding Researcher Award, 28<sup>th</sup> Research Festival, University of Tehran, 2019
- Top 1% Scientists of the World, Essential Science Indicators, 2019
- COMSTECH 2017 Best Young Researcher Award, Ministerial Standing Committee on Scientific and Technological Cooperation (COMSTECH) of the OIC (Organization of Islamic Cooperation), 2019
- Excellence in Receiving International Awards, 9<sup>th</sup> International Festival, University of Tehran, 2019
- Outstanding Reviewer, International Journal of Electrical Power and Energy Systems, 2018
- Best Book Award, Salman Farsi Conference, Tehran, 2017
- Best Book Award, Iranian 32<sup>nd</sup> Power System Conference (PSC), Tehran, 2017
- Excellence in International Editorial Activities, 7<sup>th</sup> International Festival, University of Tehran, 2017
- Outstanding Young Scientist in Electrical and Computer Engineering, Iran National Academy of Science, 2017
- Exceptional Reviewer, IEEE Transactions on Power Delivery, 2015
- Young Investigator Award, IEEE Iran Section, 2015
- Elevated to the grade of IEEE Senior member, 2015
- IEEE/PSO Transactions Prize Paper Award for the publication "Optimal PMU Placement Based on Probabilistic Cost/Benefit Analysis, IEEE Transactions on Power Systems, Vol. 28, No. 1, Feb. 2013", 2013
- Career Award, Iran Elites National Foundation, 2013
- Best Ph.D. Dissertation Award, IEEE Iran Section, 2011
- Honor Student, Ph.D. Degree in the Department of Electrical Engineering, Sharif University of Technology, 2010
- Elected as a Member of Iran Elites National Foundation, 2008-Present
- Honor Student, M.S. Degree in the Department of Electrical Engineering, Sharif University of Technology, 2007
- Best Paper Award, Conference on Restructured Power Systems (CRPS), Tehran, Iran, October 2007
- Ranked 5<sup>th</sup> in the M.S. University Entrance Examination of Iran, 2005
- Honor Student, B.S. Degree in the Department of Electrical Engineering, Iran University of Science and Technology, 2004, 2003, and 2002

## EDITORIAL BOARD MEMBERSHIPS

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- **Guest Editor**, Special Issue on "Power Quality and Protection in Smart Grids with High Penetration of Renewable Energy Systems," *IET Renewable Power Generation*, 2019
- **Guest Editor-In-Chief**, Special Issue on "Machine Learning, Data Analytics, and Advanced Optimization Techniques in Modern Power Systems," *Scientia Iranica*, 2019
- **Associate Editor**, *IET Smart Grid*, 2019-present
- **Associate Editor**, *Journal of Modern Power System and Clean Energy*, Springer, 2018-2019
- **Associate Editor**, *Scientia Iranica*, Sharif University of Technology, 2018-present

- **Editor**, *Cogent Engineering Journal*, Taylor & Francis Group, 2016-2018
- **Guest Editor-In-Chief**, Special Issue on “Optimization Techniques in Renewable Energy System Planning, Design, Operation, and Control,” *IEEE Transactions on Sustainable Energy*, 2016-2017
- **Editorial Advisory Board Member**, book entitled “Security Solutions and Applied Cryptography in Smart Grid Communications,” IGI Global Publication, USA, 2015-2016
- **Editor**, *IEEE Transactions on Sustainable Energy*, 2015-present
- **Editor**, *IEEE Power Engineering Letters*, 2015-present
- **Associate Editor**, *Turkish Journal of Electrical Engineering and Computer Science*, 2015-present
- **Guest Editor**, Special Issue on “Power Grid Resilience,” *IEEE Transactions on Smart Grid*, 2015
- **Guest Editor-In-Chief**, Special Issue on “Monitoring, Visualization, and State Estimation of Distribution Systems,” *IEEE Transactions on Smart Grid*, 2014
- **Guest Editor**, Special Issue on “Smart DC Distribution Systems,” *IEEE Transactions on Smart Grid*, 2013
- **Guest Editor**, Special Issue on “Microgrids,” *IEEE Transactions on Smart Grid*, 2011

## PROFESSIONAL MEMBERSHIPS AND ACTIVITIES

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- **Advisory Board Member**, Universal Scientific Education and Research Network (USERN), 2019-present
- **Committee Chair**, Promotion Committee, IEEE Iran Section, 2019-present
- **Member**, International Relations Committee, Iran Society of Smart Grid, 2019-present
- **Co-Founder and Governing Board Member**, Iran Cyber-Physical Systems Society, Iran, 2019-present
- **Committee Member**, Power System Operation and Control Studies, Cigre Iran, 2018-present
- **Member**, Education and Research Committee, Iran Society of Smart Grid, 2018-present
- **Governing Board Member**, Bulk Transmission System Technologies, Niroo Research Institute, 2017-present
- **Co-Founder and Governing Board Member**, Center of Cyber-Physical Systems, University of Tehran, 2017-present
- **Board Member**, Center of Excellence for Microgrids and Smart Grids, University of Kurdistan, 2017-present
- **Member**, Strategic Planning Committee, Iran Society of Smart Grid, 2017-2018
- **Member**, Terminology Working Group, Iranian Society of Smart Grid, 2016-2018
- **Proctor**, IEEEExtreme 10.0 Competition, University of Tehran, 2016
- **Senior Member**, IEEE, 2015-present (Member’ 2011, Student Member’ 2007)
- **Member**, IEEE Power & Energy Society, 2007-present
- **Member**, Iran Society of Engineering Education, 2015-2018
- **Committee Member and Secretariat**, Promotion Committee, IEEE Iran Section, 2015-2018
- **Committee Member**, Steering Committee for Roadmap Development of Iran Power Grid Reliability, Niroo Research Institute, 2015-present
- **Registered Professional Engineer**, Province of Tehran, Iran, 2012-present
- **Committee Member**, Transmission Security (TS) Subcommittee, Power System Operation (PSO) Committee, *IEEE Power & Energy Society*, 2011-2018
- **Committee Member**, Reliability, Risk, and Probability Applications (RRPA) Subcommittee, Power System Analysis, Computing and Economics (PSACE) Committee, *IEEE Power & Energy Society*, 2011-2017

## CONFERENCE SERVICES

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- **Technical Program Committee Member**, The 2nd Global Power, Energy and Communication Conference (GPECOM2020), Izmir, Turkey, October 2020
- **Organizing Committee Member**, International Conference on Energy Science & Technology (ICEST - 2020), Kuala Lumpur, Malaysia, March 2020

- **Technical Program Committee Member**, Smart Grid and Innovative Frontiers in Telecommunications (SmartGIFT 2019), Beijing, China, December 2019
- **Technical Program Committee Member**, 2019 Smart Grid Conference (SGC 2019), Tehran, Iran, December 2019
- **Technical Program Committee Member**, 9th International Conference on Power and Energy Systems (ICPES 2019), Perth, Australia, December 2019
- **Technical Program Committee Member**, Recent Developments in Control, Automation and Power Engineering (RDCAPE 2019), Noida (UP) India, October 2019
- **Technical Program Committee Member**, The Fourth International Conference on Energy Engineering and Environmental Protection (EEEP2019), Xiamen, China, November 2019
- **Technical Program Committee Member**, 2nd International Conference on Clean Energy and Electrical Systems (CEES2019), Nanjing, China, June 2019
- **Technical Program Committee Member**, 2nd Annual International Conference on Control, Automation and Electrical Systems (iccaes2019), Barcelona, Spain, February 2019
- **Technical Program Committee Member**, Second International Conference on Mechanical, Electric and Industrial Engineering (MEIE2019), Hangzhou, China, May 2019
- **Technical Program Committee Member and Track Chair**, Global Power, Energy and Communication Conference (GPECOM 2019), Nevsehir, Turkey, June 2019
- **Technical Program Committee Member**, International Conference on Clean Energy and Electrical Systems (CEES 2018), Vancouver, Canada, July 2018
- **Technical Program Committee Member**, IEEE International Energy Conference (ENERGYCON 2018), Limassol, Cyprus, June 2018
- **Technical Program Committee Member**, 2nd EAI International Conference on Smart Grid and Internet of Things (SGIoT 2018), Niagara Falls, Canada, July 2018
- **Technical Program Committee Member**, 3rd EAI International Conference on Smart Grid and Innovative Frontiers in Telecommunications (SmartGIFT'18), Auckland, New Zealand, 2018
- **Technical Program Committee Member**, Real-Time and Embedded Systems and Technologies (RTEST'17), Tehran, Iran, 2018
- **Technical Program Committee Member**, International Conference on Power System Analysis, Control, and Optimization (ICPSACO-2017), AP, India, December 2017
- **Technical Program Committee Member**, Smart Grid Conference (SGC'17), Tehran, Iran, 2017
- **Technical Program Committee Member**, International Conference on Energy Engineering and Environmental Protection (EEEP2017), Sanya, China, November 2017
- **Technical Program Committee Member**, Recent Developments in Control, Automation and Power Engineering (RDCAPE 2017), Noida (UP) India, October 2017
- **Technical Program Committee Member**, International Energy & Environment Summit - 2017, Dubai, UAE, March 2017
- **Technical Program Committee Member**, The 1st EAI International Conference on Smart Grid Assisted Internet of Things (SGIoT), Saulte Ste. Marie, Ontario, Canada, July 2017
- **Technical Program Committee Member**, International Conference on Computer Science and Communication Technology (CSCT2016), Beijing, China, December 2016
- **Technical Program Committee Member**, International Conference on Modeling, Simulation and Optimization Technologies and Applications (MSOTA2016), Xiamen, China, December 2016
- **Technical Program Committee Member**, International Conference on Environment, Civil, and Transportation Engineering (ECTE), Phuket, Thailand, August 2016

- **Technical Program Committee Member**, Smart Grid Communications (SmartGridComm'16): Control and Operation for Smart Grids, Microgrids and Distributed Resources, Sydney, Australia, November 2016
- **Technical Program Committee Member**, 2016 International Conference on Energy, Power and Electrical Engineering (EPEE2016), Bangkok, Thailand, October 2016
- **Technical Program Committee Member**, 2016 International Conference on Mechanical, Electronic and Information Technology (MEIT2016), Phuket, Thailand, August 2016
- **Technical Program Committee Member**, 1st EAI International Conference on Smart Grid Inspired Future Technologies (SmartGIFT-2016), Liverpool, England, UK, May 2016
- **Technical Program Committee Member**, International Conference on Power System Analysis, Control, and Optimization (ICPSACO-2015), AP, India, 2016
- **Executive and Technical Committee Member**, 10<sup>th</sup> Power System Protection and Control Conference (PSPC 2016), Tehran, Iran, November 2016
- **Technical Program Committee Member and Track Chair**, 24th Iranian Conference on Electrical Engineering (ICEE 2016), Shiraz, Iran, May 2016
- **Technical Committee Member and Track Chair**, Power Industry Automation Congress, Tabriz, Iran, February 2016
- **Technical Program Committee Member**, Smart Grid Conference (SGC'15), Tehran, Iran, Tehran, 2015
- **Technical Program Committee Member**, IEEE Electric Power and Energy Conference, London, Ontario, Canada, 2015
- **Technical Program Committee Member**, Smart Grid Communications (SmartGridComm'15): Architectures, Control and Operation for Smart Grids and Microgrids Symposium, Miami, FL, 2015
- **Technical Program Committee Member**, International Conference on Power System Analysis, Control, and Optimization (ICPSACO-2015), AP, India, 2015
- **Technical Program Committee Member and Track Chair**, 23rd Iranian Conference on Electrical Engineering (ICEE 2015), Tehran, Iran 2015
- **Technical Program Committee Member and Track Chair**, Recent Developments in Control, Automation and Power Engineering, India, 2015
- **Technical Committee Member and Track Chair**, Power Industry Automation Congress, Shiraz, Iran, 2015
- **Technical Committee Member and Track Chair**, Smart Grid Conference, Iran Niroo Research Institute, Tehran, Iran, 2014
- **Program Committee Member**, International Conference on Critical Information Infrastructures Security, Cyprus, 2014
- **Technical Committee Member**, Power Engineering and Automation Conference, China, 2014
- **Technical Program Committee Member**, IEEE SmartGridComm'14 Symposium - Architecture and Control, Italy, 2014
- **Technical Committee Member**, International Conference on Environmental Protection and Sustainable Ecological Development, China, 2014
- **Technical Committee Member**, Great Lakes Symposium on Smart Grid and the New Energy Economy, Chicago, 2014
- **Technical Committee Member**, Great Lakes Symposium on Smart Grid and the New Energy Economy, Chicago, 2013
- **Technical Committee Member**, 3rd international Conference on Consumer Electronics, Communications, and Networks (CECNet 2013), China, 2013
- **Technical Committee Chairman**, Smart Grid Conference, Sharif University of Technology, Tehran, Iran, 2010

## TEACHING EXPERIENCES

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### *Graduate Courses at University of Tehran*

- Power System Restructuring, Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2019

- Power System Dispatching, SCADA, and Automation, Spring 2014, Spring 2015, Spring 2017, Spring 2018, Spring 2019
- Power System Planning, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Spring 2018, Spring 2019
- Seminar for Power System Graduate Students, Spring 2014, Spring 2017, Spring 2018, Spring 2019
- Power System Operation, Fall 2014

#### ***Under-Graduate Courses at University of Tehran***

- Power System Analysis I, Spring 2015, Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2019
- Electrical Circuits II, Spring 2014, Spring 2015, Spring 2016, Spring 2017
- Electrical Circuits I, Spring 2013, Fall 2013, Fall 2014, Fall 2015
- Basic Electrical Engineering for Mechanical Engineering Students, Fall 2012, Spring 2013, Fall 2013, Fall 2014
- Basic Electrical Engineering for Metallurgy Engineering Students, Fall 2012, Spring 2013

#### **EXTERNAL PROJECTS AND GRANTS**

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- **PI**, Iran National Science Foundation, Tehran, Iran, 2019-present:
  - Controlled Islanding Algorithms in Power Systems Based on Centralized and Decentralized Approaches
- **PI**, Tavanir Corporation (IGMC), 2018-Present:
  - Resilience Assessment and Enhancement of Iran Electric Distribution Networks
- **PI**, Iran Grid Management Corporation (IGMC), 2018-2019:
  - Consultation services in the Field of Design and Implementation of Iranian Own-Built Dispatching Center
- **PI**, Iran Grid Management Corporation (IGMC), 2018-2019:
  - Consultation services in the Field of Design and Implementation of WAMS Infrastructure and Applications
- **PI**, Iran Grid Management Corporation (IGMC), 2017-2018:
  - Optimal Design of Transmission Network Special Protection Scheme with Security Consideration (UFLS Relays)
- **PI**, Niroo Research Institute, Tehran, Iran, 2017-2018:
  - Power System Resilience: Notions and Evaluation Framework
- **PI**, Iran National Science Foundation, Tehran, Iran, 2017-2018:
  - Conceptualization and Analytical Assessment of Electric Power System Resilience
- **PI**, Niroo Research Institute, Tehran, Iran, 2016-2017:
  - Consultation services in the field of Power Grid Reliability Assessment and Computational Tools
- **PI**, Iran Grid Management Corporation (IGMC), 2015:
  - Project Definition Compilation for:
    - *Electricity Balancing Market*
    - *Operational Planning for Generating Unit Maintenance Coordination, Midterm Hydro-Thermal Scheduling, and Generating Unit Fuel Allocation*
    - *Semantic Framework for Devising Technical and Economic Measures of Power Markets*
- **PI**, Iran Grid Management Corporation (IGMC), 2014-2015:
  - Feasibility study of application of PHAROS software outcomes in Iran power system studies
- **PI**, Khazar Steel Corporation, 2014:
  - Electric and Gas Monitoring of Power and Furnace Transformers



- **PI**, Iran Grid Management Corporation (IGMC), 2012-2013:
  - Consultation services in the field of phasor measurement and wide-area measurement systems
- **PI**, Iran Grid Management Corporation (IGMC), 2011-2012:
  - Consultation services in the field of Iran WAMS development project (26 PMUs and WAMS control center)
- **Project Engineer**, Electrical Engineering Department, Sharif University of Technology, 2010-Present:
  - Investigating the Connection of Ramin Power Plant to the Bulk Power Network with a Reliability Enhancement Objective
  - Vulnerability Assessment of ZREC's Power Network to Natural Disasters
  - Reliability Centered Maintenance (RCM) in Distribution Networks
  - Reliability Evaluation of Isfahan Regional Grid
  - Static and Dynamic Impacts of Large Generating Units on Iranian Power Grid
  - Compilation of Reliability Codes for Generation and Transmission Equipments
- **Project Engineer**, Electrical Instrumentation, Jalkeh Inc., Tehran, Iran, 2005-2006

### INVITED TALKS AND PRESENTATIONS

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- "Blockchain Technology: Is It Applicable for Transactive Energy Solution?" University of Tehran, Tehran, Iran, 2020
- "Role of Data Science in Smart Electric Grids," Iran National Informatics Conference, Tehran, Iran, 2020
- "IoT and Smart Grid," Seminar for IoT Summer School, University of Tehran Science and Technology Park, Tehran, Iran, 2019
- "IoT and Energy Resource Management," Seminar for IoT Summer School, University of Tehran Science and Technology Park, Tehran, Iran, 2019
- "Iran Electric Power Network: Mining Pressure," Seminar on *Cryptocurrency: Good or Bad*, Amirkabir University of Technology, Tehran, Iran, 2019
- "Distribution Network Resilience Analysis Fundamentals and Framework," TAVANIR, Tehran, Iran, 2019
- "How to Design the Under-Frequency Load Shedding Scheme," Cigre Meeting, Niroo Research Institute, Tehran, Iran, 2018
- "Cyber and Physical Security in Cyber-Physical Systems," Real-Time Embedded Systems and Technologies, Tehran, Iran, 2018
- "Resilience Notion in Electric Distribution Grids," Power Distribution Conference, Tehran, Iran, 2018
- "Design and Tuning the Wide-Area Monitoring, Protection, and Control System and Applications," Iran Grid Management Company, Tehran, Iran, 2018
- "Wide-Area Monitoring, Protection, and Control: History and State-of-the-Art," Niroo Research Institute, Tehran, Iran, 2017
- "Toward Resilient Electricity Networks," Iranian-German Workshop ENERZI 2017, Dresden, Germany, 2017
- "Flexibility of Power Systems: Challenges and Solutions" Iranian-German Workshop ENERZI 2017, Dresden, Germany, 2017
- "The Role of Smart Microgrids in Promoting the Resilience of Electricity Networks," Iran National Academy of Science, Tehran, Iran, 2017
- "An Introduction to Power System Resilience," Niroo Research Institute, Tehran, Iran, 2016
- "How Smart Are We in Electricity Networks?," Cyber Physical Systems Summer School, Tehran, Iran, 2016
- "Complex Smart Grids in Simple Words," University of Tehran, Tehran, Iran, 2016
- "Software Aspects of the Smart Grid and Smart Home," University of Tehran, Tehran, Iran, 2016

- “Synchrophasor Measurement Technology and Its Applications,” The 4th International Congress on Electric Industry Automation (ICEIA 2016), Tabriz, Iran, 2016
- “Synchrophasor Measurement Technology Across the World,” 10<sup>th</sup> Power System Protection and Control Conference, Tehran, Iran, 2016
- “Microgrid Design and Implementation,” Sarcheshmeh Copper Complex, Kerman, Iran, 2015
- “Synchrophasor Measurement and Application in Iran Grid Management Company,” Iran Grid Management Company, Tehran, Iran, 2014
- “Wide-Area Measurement Systems: From Structure to Applications,” Kerman Tablo Corp., Kerman, Iran, 2014
- “Visions of the Smart Electricity Grid in Iran,” Kerman Chamber of Commerce, Industries, Mines, & Agriculture, Kerman, Iran, 2014
- “Smart Grid: A Novel Paradigm for Future Power Networks,” Electrical and Computer Engineering Department, University of Tabriz, Tabriz, Iran, 2013
- “Modern Electricity Grids,” School of Electrical and Computer Engineering, College of Engineering, University of Tehran, Tehran, Iran, 2012
- “Reliability Assessment of Composite Power Systems Excluding and Including the Impact of Station-Originated Failures,” Isfahan Regional Electric Company, Isfahan, Iran, 2012
- “Reliability Worth: Assessing Interruption Cost of the Electricity,” Isfahan Regional Electric Company, Isfahan, Iran, 2011
- “PMU Development and Applications of Wide-Area Measurement System,” Yazd Regional Electric Company, Yazd, Iran, 2011
- “Synchrophasor Measurement and its Applications in Electric Power Systems,” Iran Grid Management Corporation (IGMC), Tehran, Iran, 2010-present (regular presentations)
- “Application of Synchronized Phasors in Electric Power Systems,” ENVA Power Company, Boston, MA, 2009
- “Probabilistic Evaluation and Planning of Wide-Area Measurement Systems,” Illinois Institute of Technology (IIT), Chicago, IL, 2009

## GRADUATE STUDENTS AND VISITING SCHOLARS

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### *Postdoctoral Fellows*

1. Dr. Shahab Bahrami (2019), “Convex Optimization for Smart Grid Applications”

### *Ph.D. Students (Supervision and Co-Supervision)*

1. Amir Darbandsari (ongoing), “Data-Driven State Estimation of Active Distribution Network”
2. Ali Ghahgharaei-Zamani (ongoing), “Application of Data Mining for Energy Management Strategies”
3. Sabah Daniar (ongoing), “Defensive Controlled Islanding with Decentralized Decision Making”
4. Mostafa Mohammadian (ongoing), “Online Optimization for PEV’s Charging/Discharging Control”
5. Hassan Gharibpour (2020), “Equilibrium Point of Flexi-Ramp Market with New Flexibility Products”
6. Saeed Teimourzadeh (2018), “Microgrid Protection Challenges and Solutions”
7. Mohammad Hassan Amirioun (2017), “Multi-Carrier Microgrid Resilience Assessment and Improvement”
8. Maysam Doustizadeh (2016), “Adjustable Robust Market Clearing of Wind-Integrated Systems”

### *Ph.D. Students (Advisement)*

1. Sajjad Solat (ongoing), Iran University of Science and Technology, “Portfolio Planning of DSO as a Platform Provider instead of Asset Ownership”
2. Mostafa Ghasemi (ongoing), Iran University of Science and Technology, “Resilience-Oriented Distribution Expansion Planning”



3. Ali-Akbar Hajnorouzi (2020), Iran University of Science and Technology, "PMU Response-based Online Transient Stability Prediction"
4. Mohammad Setareh (2019), Sharif University of Technology, "Inter-Area Oscillation Detection and Control"
5. Akbar Sharafi (2017), university of Tehran, "Wide-Area Backup Protection Algorithms"
6. Sara Nourollah (2016), Shahid Beheshti University, "Under-Frequency-Voltage Load Shedding in Microgrids"
7. Sajjad Golshannavaz (2015), University of Tehran, "Active Distribution Network with Reconfiguration Capability"
8. Esmail Khalilzad (2014), Science and Research Branch of Islamic Azad University, "Impact of Run-Of-the-River Generation Systems on Power System Reliability"

***Master Students (Supervision and Co-Supervision)***

1. Sana Shami (ongoing), "Micro-Grid Assisted Resilience Improvement in Man-Made Attacked Power Grids"
2. Ehsan Kargahi (ongoing), "Cost function Estimation based on Market Player's Bidding Strategy"
3. Hossein Fani (ongoing), "Data-Driven Ramp Reserve Requirement Estimation for Short-Term Operation"
4. Emad Ghanbari (ongoing), "Network-Constrained Transactive Energy Framework for Single-Phase Customers"
5. Zahra Bagheri (ongoing), "Demand Contributions to the Distribution System Flexibility"
6. Araz Bagherzadeh (ongoing), "Distribution System Balancing with Inverter-based DERs"
7. Seyyed Amin Sedgh (ongoing), "Post-Event Mobile Energy Resource Re-location for Resilience Enhancement"
8. Milad Mohammad-Yari (ongoing), "Maximizing Transactive Energy Hosting Capacity in Distribution Networks"
9. Rashid Sadegian (ongoing), "Reliability-Centered Operation of Parallel Power Transformers"
10. Amin Dadashzadeh (ongoing), "μPMU-aided Distribution Network Situational Awareness"
11. Masoud Motaghizadeh (ongoing), "Secondary Voltage Control of Distribution Networks with μPMU data"
12. Mahan Fakouri (ongoing), "Resilience Enhancing with Component Hardening Strategy"
13. Mohammad Javad Atabaki (ongoing), "Resilience-Oriented Distribution Network Inspection and Repair Process"
14. Narges Ehsani (ongoing), "μPMU Data-Driven Anomaly Detection of Distribution System"
15. Jafar Sadati (2019), "Mean-Field Game Theory for EV-lots Scheduling"
16. Shahryar Ebrahimi (2019), "Fuzzy Model Predictive Control for Automatic Generation Control"
17. Mohammad Hamidieh (2019), "Cyber-Attack Tracking in Power Systems Equipped with SCADA and WAMS"
18. Ali Azizi (2019), "Loss Allocation in Distribution Networks via the Graph Discovery Algorithm"
19. Alireza Arab (2019), "Stochastic State Estimation with Set Theoretic Method"
20. Hesam Farzaneh (2018), "Multi-microgrid Scheduling with Mean-Field Game Approach"
21. Fargol Nematkhah (2019), "Transactive Energy Scheduling in Building Energy Management Systems"
22. Alireza Akrami (2018), "μPMU-Assisted Reverse Power Flow Detection in Active Distribution Networks"
23. Ehsan Samani (2018), "Distribution Network Planning with Robust Optimization"
24. Farhad Elyasi (2018), "Digital Processing for Phase Locked Loop of Power Electronics-based DG"
25. Matin Farhoumandi (2018), "Generation Expansion Planning with Unit Rehabilitation Option"
26. Tohid Shekari (2016), "Wide-Area Under-Frequency Load-Shedding with Voltage Stability Considerations"
27. Amin Gholami (2016), "Power System Resilience Improvement with Advanced Restoration Methods"
28. Saeed Mohammadi (2015), "Commercial Software for Security-Assured Preventive Actions in Iran Power Grid"
29. Mostafa Hashemi-Taheri (2015), "Generation Scheduling with Substation & Transmission Switching Capability"
30. Javad Zare (2015), "Synchrophasor Application for Preventing Power Grid Cascading Outages"
31. Reza Salahshour (2015), "Frequency-Constrained Security Constrained Unit Commitment"
32. Bahram Shakeri (2015), "PMU-based Voltage Instability analysis and Prediction"
33. Sina Mousavi (2015), "Synchrophasor Application for Real-Time Transfer Capability Evaluation"
34. Amin Torkashvand (2015), "Parameter Estimation of Dynamic Models of Generating Units with PMU Data"
35. Hossein Yousefi (2014), "Reliability-based Allocation of Fault Current Limiters in Substations"

## PUBLICATIONS

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### *Citation Record (Google Scholar)*

- Total Citations: 4239
- H-Index: 35

### *Book*

1. **F. Aminifar**, "Smart Transmission Grids," Iran Grid Management Corp., Tehran, Iran, 2017 [in Persian]

### *Book Chapter*

1. M. Fotuhi-Firuzabad, M. Rastegar, A. Safdarian, and **F. Aminifar**, "Probabilistic Home Load Controlling Considering Plug-in Hybrid Electric Vehicle Uncertainties," Chapter 8 in the Edited Book "Reliability Modeling and Analysis of Smart Power Systems", [Springer](#), 2014

### *Technical Report*

1. M. Shahidehpour, M. Fotuhi-Firuzabad, and **F. Aminifar**, "Power System Security," [Sharif University of Technology](#), 2008

### *Journal Papers*

1. F. Nematkhah and **F. Aminifar**, "Transactive Energy: A Novel Effective Approach for Demand Side Management," [Journal of Iranian Association on Electrical, Electronic Engineering](#), to appear [in Persian]
2. M. Farhoumandi, **F. Aminifar**, and M. Shahidehpour, "Generation Expansion Planning Considering the Rehabilitation of Aging Generating Units," [IEEE Transactions on Smart Grid](#), to appear
3. A. A. Hajnorouzi, **F. Aminifar**, and H. A. Shayanfar, "Generation Rejection Scheme Based-on a Combinational Rotor Angle Trajectory Prediction," [Scientia Iranica](#), to appear
4. H. Gharibpour and **F. Aminifar**, "Dynamic Equilibrium in Electricity Market Considering Demand Providing Flexibility: A Boundary Condition Approach," [Scientia Iranica](#), to appear
5. F. Ahmadi, A. Akrami, M. Doostizadeh, and **F. Aminifar**, "Energy Pricing and Demand Scheduling in Retail Market: How Microgrids Integration Affects the Market," [IET Smart Grid](#), to appear
6. **F. Aminifar**, A. Safdarian, A. Hooshyar, M. Fotuhi-Firuzabad, and M. Shahidehpour, "Guest Editorial: Special Issue on Machine Learning, Data Analytics, and Advanced Optimization Techniques in Modern Power Systems," [Scientia Iranica](#), to appear
7. H. Farzaneh, M. Shokri, H. Kebriaei, and **F. Aminifar**, "Robust Decentralized Mean Field Control for Energy Management of Residential Users," [IEEE Transactions on Sustainable Energy](#), to appear
8. A. Akrami, M. Doostizadeh, and **F. Aminifar**, "Optimal Reconfiguration of Distribution Network Using  $\mu$ PMU Measurements: a Data-Driven Stochastic Robust Optimization," [IEEE Transactions on Smart Grid](#), to appear
9. S. Teimourzadeh, **F. Aminifar**, M. Davarpanah, and M. Shahidehpour, "An Adaptive Reclosing Scheme for Preserving Dynamic Security in Low-Inertia Microgrids," [IEEE Transactions on Smart Grid](#), to appear
10. A. Akrami, M. Doostizadeh, and **F. Aminifar**, "Power System Flexibility: an Overview of Emergence to Evolution," [Journal of Modern Power System and Clean Energy](#), to appear
11. E. Samani and **F. Aminifar**, "Tri-level Robust Investment Planning of DERs in Distribution Networks With AC Constraints," [IEEE Transactions on Power Systems](#), Vol. 34, No. 5, pp. 3749-3757, Sept. 2019
12. M. Ghamsari-Yazdel, M. Esmaili, **F. Aminifar**, P. Gupta, A. Pal, and H. A. Shayanfar, "Incorporation of Controlled Islanding Scenarios and Complex Substations in Optimal WAMS Design," [IEEE Transactions on Power Systems](#), Vol. 34, No. 5, pp. 3408-3416, Sept. 2019
13. S. Bahrami and **F. Aminifar**, "Exploiting the Potential of Energy Hubs in Power Systems Regulation Services," [IEEE Transactions on Smart Grid](#), Vol. 10, No. 5, pp. 5600-5608, Sept. 2019
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### *Invited papers*

112. **F. Aminifar**, D. Farrokhzad, and M. Fotuhi-Firuzabad, "Wide-Area Measurement System: History, Structure, Present Applications, and Future Functions," Conference on Smart Grid (CSG), Tehran, Iran, October 2010
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### *Conference Papers*

114. M. Ghasemi and F. Aminifar, "Analysis of Electric Power System and Gas Network Interdependency for Resilience Improvement," 1<sup>st</sup> Conference on Resilience in the Electricity Industry, Iran, February 2020
115. S. J. Sadati, H. Kebriaei, and **F. Aminifar**, "Aggregative Game for Charging Coordination of Plug-in Electric Vehicles in Networked Parking Lots," 9<sup>th</sup> Smart Grid Conference (SGC), Tehran, Iran, December 2019
116. F. Elyasi, A. Arab, S. Teimourzadeh, **F. Aminifar**, M. Baligh, N. Nouri, and A. Nozad-Amendeh, "Under-Frequency Load Shedding in Electric Power System with the Aim of Rate-of-Change-of-Frequency," 34<sup>th</sup> Power System Conference (PSC), Tehran, Iran, December 2019 [in Persian]
117. A. Dadashzadeh, M. Mottaghizadeh, H. Abniki, and **F. Aminifar**, "Adaptive Protection Algorithm for Protection Coordination of Overcurrent Relays in DG-Integrated Distribution Networks," 24<sup>th</sup> Electric Power Distribution Conference (PSC), Khorramabad, Iran, June 2019 [in Persian]
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