

MOJDEH KHORSAND HEDMAN
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Academic Appointment

Arizona State University

Aug. 2017-Present

Assistant Professor

School of Electrical, Computer, and Energy Engineering

Education

Ph.D. in Electrical Engineering (Electric Power and Energy Systems)

Aug. 2012-May 2017

Advisor: Professor Vijay Vittal

Arizona State University, Tempe, AZ

Dissertation: Analytical Approaches for Identification and Representation of Critical Protection Systems in Transient Stability Studies

M.Sc. in Electrical Engineering (Electric Power Systems)

Sep. 2008-Sep. 2010

Iran University of Science and Technology, Tehran, Iran

Thesis: Determining the Optimal Amount of Reserves Considering Wind Power Generation in Power System Using Stochastic Optimization

B.Sc. in Electrical Engineering (Electric Power Systems)

Sep. 2003-Sep. 2007

Mazandaran University, Mazandaran, Iran

Publications

Journal publications:

- [J19] M. He, Z. Soltani, M. Ghaljehei, M. Esmaili, S. Ma, M. Chen, **M. Khorsand**, R. Ayyanar, and V. Vittal, "A SOCP-based ACOFP for Operational Scheduling of Three-phase Unbalanced Distribution Systems and Coordination of PV Smart Inverters," *IEEE Transactions on Power Systems*, accepted for publication.
- [J18] M. He, Z. Soltani, **M. Khorsand**, A. Dock, P. G. Malaty, and M. Esmaili, "Behavior-aware Aggregation of Distributed Energy Resources for Risk-Aware Operational Scheduling of Distribution Systems," *Energies*, 2022, <https://doi.org/10.3390/en15249420>.
- [J17] R. Vakili and **M. Khorsand**, "A Machine Learning-Based Method for Identifying Critical Distance Relays for Transient Stability Studies," *Energies*, 2022; <https://doi.org/10.3390/en15238841>.
- [J16] Z. Soltani, S. Ma, **M. Khorsand**, and V. Vittal, "Simultaneous Robust State Estimation, Topology Error Processing, and Outage Detection for Unbalanced Distribution Systems," *IEEE Transactions on Power Systems*, 2022.
- [J15] Z. Soltani and **M. Khorsand**, "Real-Time Topology Detection and State Estimation in Distribution Systems Using Micro-PMU And Smart Meter Data," *IEEE Systems Journal*, 2021.

- [J14] K. Montano-Martinez, S. Thakar, S. Ma, Z. Soltani, V. Vittal, **M. Khorsand**, R. Ayyanar, and C. Rojas, "Detailed Primary and Secondary Distribution System Model Enhancement Using AMI Data", *IEEE Open Access Journal of Power and Energy*, Nov. 2021.
- [J13] M. Ghaljehei and **M. Khorsand**, "Day-ahead Operational Scheduling with Enhanced Flexible Ramping Product: Design and Analysis," *IEEE Transactions on Power Systems*, Sept. 2021.
- [J12] R. Vakili, **M. Khorsand**, V. Vittal, B. Robertson, P. Augustin, "An Algorithmic Approach for Identifying Critical Distance Relays for Transient Stability Studies," *IEEE Open Access Jour. of Power and Energy*, vol.8, 2021.
- [J11] M. Ghaljehei and **M. Khorsand**, "Representation of Uncertainty in Electric Energy Market Models: Pricing Implication and Formulation," *IEEE Systems Journal*, Oct. 2020.
- [J10] S. Kamali, T. Amraee, and **M. Khorsand**, "Intentional Power System Islanding against Cascading Outages Using Transient Energy Function Method," *IET Generation, Transmission & Distribution*, vol. 14, Oct. 2020.
- [J9] Y. Wang, V. Vittal, **M. Khorsand**, and C. Singh, "Composite System Reliability Evaluation with Essential Reliability Services Assessment of Wind Power Integrated Power Systems," *IEEE Open Access Journal of Power and Energy*, vol. 7, Oct. 2020.
- [J8] Y. Wang, V. Vittal, **M. Khorsand**, and C. Singh, "Probabilistic Reliability Evaluation Including Adequacy and Dynamic Security Assessment," *IEEE Transactions on Power Systems*, vol. 35, no. 1, Jan. 2020. **Technical Committee, Analytic Methods for Power Systems (AMPS), Best Paper Award.**
- [J7] **M. Abdi-Khorsand** and V. Vittal, "Identification of Critical Protection Functions for Transient Stability Studies," *IEEE Transactions on Power Systems*, vol. 33, no. 3, pp. 2940 - 2948, May 2018.
- [J6] **M. Abdi-Khorsand** and V. Vittal, "Modeling Protection Systems in Time-Domain Simulations: A New Method to Detect Mis-operating Relays for Unstable Power Swings," *IEEE Transactions on Power Systems*, vol. 32, no. 4, pp. 2790-2798, Jul. 2017.
- [J5] X. Li, M. Sahraei-Ardakani, P. Balasubramanian, **M. Abdi-Khorsand**, K. W. Hedman, and R. Podmore, "Real-Time Contingency Analysis with Corrective Transmission Switching," *IEEE Transactions on Power Systems*, vol. 32, no. 4, pp. 2604 - 2617, Jul. 2017.
- [J4] **M. Abdi-Khorsand**, M. Sahraei-Ardakani, and Y. Al-Abdullah, "Corrective Transmission Switching with N-1-1 Contingency Analysis," *IEEE Transactions on Power Systems*, vol. 32, no. 2, pp. 1606-1615, Mar. 2017.
- [J3] M. Sahraei-Ardakani, X. Li, P. Balasubramanian, K. W. Hedman, and **M. Abdi-Khorsand**, "Real-Time Contingency Analysis With Transmission Switching on Real Power System Data," *IEEE Transactions on Power Systems*, vol. 31, no. 3, pp. 2501-2502, May 2016.
- [J2] Y. Al-Abdullah, **M. Abdi-Khorsand**, and K. W. Hedman, "The Role of Out-of-Market Corrections in Day-Ahead Scheduling," *IEEE Transactions on Power Systems*, vol. 30, no. 4, pp. 1937-1946, Jul. 2015.
- [J1] **M. Abdi-Khorsand** and H. Heydari, "Multiobjective Augmented Eps-constraint Optimization for Economic/Environmental Stochastic Unit Commitment in Power Systems with High Penetration of Wind Power," *International Review of Electrical Engineering*, vol. 5, no. 4, Aug. 2010.

Conference publications (peer reviewed):

- [C22] Z. Soltani, S. Ma, M. Ghaljehei, and **M. Khorsand**, “Volt-VAr Optimization of PV Smart Inverters in Unbalanced Distribution Systems,” *Grid Edge Technologies*, April 2023.
- [C21] G. V. Iswaran, R. Vakili and **M. Khorsand**, “Power System Resiliency Against Windstorms: A Systematic Framework Based on Dynamic and Steady-State Analysis,” *2022 North American Power Symposium (NAPS)*, 2022.
- [C20] M. He and M. Khorsand, “Residential Appliance-level Consumption Modeling and Forecasting via Conditional Hidden Semi-Markov Model,” *2022 North American Power Symposium (NAPS)*, 2022.
- [C19] G. V. Iswaran, R. Vakili, and **M. Khorsand**, “A Comprehensive Framework based on Dynamic and Steady State Analysis to Evaluate Power System Resiliency to Extreme Weather Conditions,” *IREP 2022*.
- [C18] Z. Soltani, S. Ma, M. Ghaljehei, and **M. Khorsand**, “Optimal Scheduling of Distributed Energy Resources Considering Volt-VAr Controller of PV Smart Inverters,” *IREP 2022*.
- [C17] R. Vakili and **M. Khorsand**, “Enhancing Situational Awareness: Predicting Under Frequency and Under Voltage Load Shedding Relay Operations,” *2021 North American Power Symposium (NAPS)*, 2021.
- [C16] R. Vakili and **M. Khorsand**, “Machine-Learning-based Advanced Dynamic Security Assessment: Prediction of Loss of Synchronism in Generators,” *North American Power Symposium (NAPS)*, 2020.
- [C15] R. Santoni, A. Chandwani, A. K. Shah, and **M. Khorsand**, “Improving Distribution System Resiliency using Distribution Energy Resources,” *North American Power Symposium (NAPS)*, 2020.
- [C14] B. Jeon and **M. Khorsand**, “Energy Management System in Naval Submarines,” *IEEE Transportation Electrification Conference & Expo (ITEC)*, June 2020.
- [C13] M. He, Z. Soltani, and **M. Khorsand**, “Two-Stage Distributed Energy Resources Scheduling via Chance-Constrained AC Optimal Power Flow: A Second-Order Cone Programming Approach,” *the IEEE PES General Meeting 2020*.
- [C12] M. He and **M. Khorsand**, “A Data-driven based Strategy to Evaluate Participation of Diverse Social Classes in Smart Electric Grids,” *North American Power Symposium (NAPS)*, 2019.
- [C11] P. Chatterjee, **M. Khorsand**, and K. W. Hedman, “Enhanced Assessment of Power System Behavior during Multiple Contingencies,” *North American Power Symposium (NAPS)*, 2018.
- [C10] T. Tesfay, M. Jamei, A. Scaglione, **M. Khorsand**, K. Hedman and R. Bazzi, “AVAIL: Assured Volt-Ampere Information Ledger,” *IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (SmartGridComm)*, 2018.
- [C9] X. Li, P. Balasubramanian, **M. Abdi-Khorsand**, A. Korad, and K. W. Hedman, “Effect of Topology Control on System Reliability: TVA Test Case,” *CIGRE Grid of the Future Symposium 2014*, pp. 1-8, Oct. 2014.
- [C8] **M. Abdi-Khorsand** and K. W. Hedman, “Day-Ahead Corrective Transmission Topology Control,” *In Proc. of the IEEE PES General Meeting 2014*, Washington, DC, Jul. 2014.
- [C7] Y. Al-Abdullah, **M. Abdi-Khorsand**, and K. W. Hedman, “Analyzing the Impacts of Out-of-

Market Corrections,” *In Proc. of the 2013 IREP Symposium-Bulk Power System Dynamics and Control-IX (IREP)*, Rethymnon, Greece, Aug. 2013.

- [C6] S. A. H. Bahreyni, **M. Abdi-Khorsand**, and S. Jadid, “A Stochastic Unit Commitment in Power Systems with High Penetration of Smart Grid Technologies,” *In Proc. of the 2nd Iranian Conference on Smart Electrical Grids (ICSG)*, Iran, May 2012.
- [C5] **M. Abdi-Khorsand** and H. Heydari, “Joint Stochastic Wind-Thermal Generation Scheduling and Emission Reduction Using Multiobjective Augmented Eps-Constraint Algorithm,” *In Proc. of the 6th International Conf. on Technical and Physical Problems of Power Engineering*, Iran, Sep. 2011.
- [C4] **M. Abdi-Khorsand**, A. Zakariazadeh, and S. Jadid, “Stochastic Wind-Thermal Generation Scheduling Considering Emission Reduction: A Multiobjective Mathematical Programming Approach,” *In Proc. of the Asia-Pacific Power and Energy Engineering Conference*, China, Mar. 2011.
- [C3] **M. Abdi-Khorsand** and H. Heydari, “Stochastic Reserve Scheduling for Power System with High Penetration of Wind Power and Interruptible Load Participation Analysis,” *In Proc. of the 1st Iranian Conf. on Renewable Energy and Distributed Generation*, Iran, Mar. 2010.
- [C2] **M. Abdi-Khorsand**, H. Heydari, and A. Zakariazadeh, “Interruptible Load Participation as Operating Reserve in Joint Energy and Spinning Reserve Markets Using Stochastic Security Analysis,” *In Proc. of the 2nd International Conf. on Computer and Automation Engineering*, vol. 5, Singapore, Feb. 2010.
- [C1] **M. Abdi-Khorsand** and S. Jadid, “Augmented Z_{bus} Transmission Network Cost Allocation,” *In Proc. of the 18th Iranian Conference on Electrical Engineering (ICEE)*, Iran, May 2010.

Technical reports:

- [T9] Line Roald, Daniel Molzahn, and **M. Khorsand Hedman**, “T-64: Who are controlling the DERs? Increasing DER hosting capacity through targeted modeling, sensing, and control,” PSERC Final Project Report.
- [T8] **M. Khorsand Hedman** and V. Vittal, “Protection System Modeling and Impact Assessment in Transient Stability Analysis Software Tools,” Submitted to Salt River Project.
- [T7] Final Report, Grid at the Edge: Challenges and Opportunities, *Joint NSF and PSERC Workshop*.
- [T6] **M. Khorsand**, K. W. Hedman, L. Tong, A. Papavasiliou, M. Ghaljehei, J. Kwon, M. Saleh, N. G. Singhal, S. Zhang, and C. Chen, “Newly Implemented and Proposed Market Products and Reformulations: Pricing Implications, Analysis, and Enhancements,” PSERC Final Project Report.
- [T5] C. Singh, V. Vittal, **M. Khorsand Hedman**, Y. Wang, D. Urgun, S. K. Kanchari Bavajigari “Reliability Evaluation of Renewable Generation Integrated Power Grid including Adequacy and Dynamic Security Assessment,” PSERC Report, November 2019.
- [T4] M. He and **M. Khorsand Hedman**, “Enabling and Incentivizing Active Participation of Customers in Smart Grid,” Submitted to Salt River Project.
- [T3] R. Vakili, P. Chatterjee, **M. Khorsand Hedman**, and Vijay Vittal, “Analyzing the Importance of Modeling Distance Relays in Stability Studies and Development of an Iterative Contingency-

based Algorithm to Identify Critical Lines for Modeling Distance Relays,” Submitted to Salt River Project.

- [T2] M. Chen, V. Vittal, and **M. Khorsand Hedman**, “An Examination of Transmission System Flexibility Metrics,” Submitted to Salt River Project.
- [T1] V. Vittal, S. Lotfifard, A. Bose, **M. Khorsand**, I. Kiaei, “Representation, Modeling, Data Development and Maintenance of Appropriate Protective Relaying Functions in Large Scale Transient Stability Simulations,” PSERC Final Project Report.

Invited conference papers:

- [IC2] R. Vakili and **M. Khorsand**, “A Machine-Learning-Based Method for Identifying Critical Distance Relays for Transient Stability Studies,” *Georgia Institute of Technology Protective Relaying Conference, Clayton Griffin Student Paper Award*, 2021. (**Best Paper Award**)
- [IC1] **M. Abdi-Khorsand** and V. Vittal, “Modeling Protection Systems in Time-Domain Simulations: A New Method to Detect Mis-operating Relays for Unstable Power Swings,” *Georgia Institute of Technology Protective Relaying Conference, Clayton Griffin Student Paper Award*, 2017. (**Best Paper Award**)

Working and under-review papers:

- [W3] M. Ghaljehei and **M. Khorsand**, “Day-ahead Resource Scheduling with Enhanced Deliverable Flexible Ramp Product,” *IEEE Transactions on Power Systems*, to be submitted.
- [W2] R. Vakili and **M. Khorsand**, “Comprehensive online dynamic security assessment: Prediction of loss of synchronism in generators and behavior of protection systems,” *IEEE Transactions on Power Systems*, to be submitted.
- [UR1] Z. Soltani, **M. Khorsand**, and S. Ma, “Current-Voltage AC Optimal Power Flow for Unbalanced Distribution Network,” submitted to IEEE Open Access Journal of Power and Energy.

Invited presentations:

- [IP6] Mojdeh Khorsand Hedman and Mohammad Ghaljehei “Enhanced Flexible Ramping Product: Design and Analysis,” FERC Technical Conference: Increasing Real-Time and Day-Ahead Market Efficiency and Enhancing Resilience through Improve Software, June 2020.
- [IP5] Mojdeh Khorsand Hedman, “Data-Enabled Modern Resource Management: From Risk Management to Socially-aware Solutions,” Power Systems Engineering Research Center (PSERC) Webinar, Nov. 2019.
- [IP4] Mojdeh Khorsand Hedman, “Modeling Protection Systems in Time Domain Simulations, North American Electric Reliability Corporation”, System Analysis and Modeling Subcommittee, July 2019.
- [IP3] Mojdeh Khorsand Hedman, “Corrective Transmission Switching with N-1-1 Contingency Analysis”, Institute for Operations Research and the Management Sciences (INFORMS) Conference, Oct. 2019.
- [IP2] Mojdeh Khorsand Hedman, “Integrated resource plan docket support: ASU LightWorks”, Special Open Meeting of the Arizona Corporation Commission, Stakeholder Meeting and Workshop, Resource Planning and Procurement in 2019, 2020 and 2021; In the Matter of Possible Modification to the Rules on Resource Planning and Procurement, Sep. 2019.

[IP1] Mojdeh Khorsand Hedman, “Developing Tools to Support Urban and Regional Energy Planning”, One-Day Urban and Regional Energy Transitions Workshop, Apr. 2019.

Teaching Experience

- **Resilient Smart Electric Grids, Arizona State University** (Spring 2020, Spring 2022)
- **Power Systems Operations and Planning, Arizona State University** (Fall 2017, Fall 2018, Fall 2019, Fall 2020, and Fall 2022)
- **Power System Analysis, Arizona State University** (Spring 2018, Spring 2020, and Spring 2023)
- **Electrical Machinery, Azad University, Iran** (Fall 2011, Spring 2012)
- **Circuits Analysis, Azad University, Iran** (Fall 2011, Spring 2012, Spring 2012)
- **Smart Meters and Devices in Smart Grids, Azad University, Iran** (Fall 2011, Spring 2012)

Research Grants

Sponsored projects:

Project Title: **[Grant 1] Integration of Protection and Control Systems in Dynamic Security Assessment Methods**

Agency: Power Systems Engineering Research Center (PSERC)

Grant Amount: \$150,000 (2 Years)

PI: Sakis Meliopoulos (Georgia Tech)

Share: 50%

Co-PIs: Mojdeh Khorsand Hedman (Arizona State University)

Project Period: July 2023-July 2025

Project Title: **[Grant 2] Causal Theory of Residential Electricity Consumption and Production: Unveiling Full Scale Demand Side Flexibility**

Agency: National Science Foundation (NSF)

Grant Amount: \$197,828 (2 Years)

PI: Mojdeh Khorsand Hedman (Arizona State University)

Share: 100%

Co-PIs: NA

Project Period: September 2022-September 2024

Project Title: **[Grant 3] Transmission System Analyses for High Penetration Level of Inverter-based Resources: RMS-EMT Co-simulation with Protection System Modeling**

Agency: Salt River Project (SRP)

Grant Amount: \$70,450

PI: Mojdeh Khorsand Hedman (Arizona State University)

Share: 34%

Co-PIs: Vijay Vittal and Raja Ayyanar (Arizona State University)

Project Period: August 2022-August 2023

Project Title: **[Grant 4] Root Cause Analysis of Unexpected IBR Tripping and Optimal Settings for Mitigation**

Agency: Salt River Project (SRP)

Grant Amount: \$70,450

PI: Raja Ayyanar (Arizona State University)

Share: 33%

Co-PIs: Vijay Vittal and Mojdeh Khorsand Hedman (Arizona State University)

Project Period: August 2022-August 2023
Project Title: **[Grant 5] Comparison of Positive-Sequence Simulation Versus Three-Phase Simulation of IBRs and Rotating Loads in Time Domain Simulation**
Agency: Power Systems Engineering Research Center (PSERC)
Grant Amount: \$180,000 (2 Years)
PI: Vijay Vittal (Arizona State University)
Share: 50%
Co-PIs: Mojdeh Khorsand Hedman (Arizona State University)
Project Period: July 2023-July 2025
Project Title: **[Grant 6] Bidding Generation Tool for DER Aggregators**
Agency: Power Systems Engineering Research Center (PSERC)
Grant Amount: \$52,910 (1 Years)
PI: Mojdeh Khorsand Hedman (Arizona State University)
Share: 100%
Co-PIs: NA
Project Period: December 2022- December 2023
Project Title: **[Grant 7] The Future of Markets and DERs: Providing Essential Grid Services and Managing Performance Risk**
Agency: Power Systems Engineering Research Center (PSERC)
Grant Amount: \$220,000 (2 Years)
PI: Kory Hedman (Arizona State University)
Share: 32% (\$70,000)
Co-PIs: Mojdeh Khorsand Hedman (Arizona State University), Shmuel Oren (UC Berkeley)
Project Period: July 2022-August 2024
Project Title: **[Grant 8] PSERC Transformation Summer School**
Agency: Sloan (Alfred P.) Foundation
Grant Amount: \$250,000 (1 Year)
PI: Kory Hedman (Arizona State University)
Share: 30%
Co-PIs: Mojdeh Khorsand Hedman (Arizona State University), Mike Ranjram (Arizona State University), and Chee-Woi Ten (Michigan Tech University)
Project Period: December 2021- December 2022
Project Title: **[Grant 9] Protection System Modeling and Impact Assessment in Transient Stability Analysis Soft-ware Tools**
Agency: Salt River Project (SRP)
Grant Amount: \$65,450
PI: Mojdeh Khorsand Hedman (Arizona State University)
Share: 50%
Co-PIs: Vijay Vittal(Arizona State University)
Project Period: August 2021-August 2022
Project Title: **[Grant 10] Sensor Enabled Modeling of Future Distribution Systems with Distributed Energy Resources**
Agency: The US Department of Energy, Advanced Research Projects Agency-Energy
Grant Amount: \$3,100,000 (3 Years)
PI: Vijay Vittal (Arizona State University)
Share: 18% (\$558,000)

Co-PIs: Mojdeh Khorsand Hedman, Raja Ayyanar, Anamitra Pal, Yang Weng (Arizona State University)

Project Period: September 2019-September 2022

Project Title: **[Grant 11] Who are controlling the DERs? Increasing DER hosting capacity through targeted modeling, sensing, and control**

Agency: Power Systems Engineering Research Center (PSERC)

Grant Amount: \$220,000 (2 Years)

PI: Line Roald (University of Wisconsin–Madison)

Share: 32% (\$70,000)

Co-PIs: Mojdeh Khorsand Hedman (Arizona State University), Daniel Molzahn (Georgia Institute of Technology)

Project Period: July 2020-August 2022

Project Title: **[Grant 12] Newly Implemented and Proposed Market Products and Reformulations: Pricing Implications, Analysis, and Enhancements**

Agency: Power Systems Engineering Research Center (PSERC)

Grant Amount: \$220,000 (2 Years)

PI: Mojdeh Khorsand (Arizona State University)

Share: 36% (\$80,000)

Co-PIs: Kory Hedman (Arizona State University) and Lang Tong (Cornell University)

Project Period: July 2018 - August 2020

Project Title: **[Grant 13] Enabling and Incentivizing Active Participation of Customers in a Smart Grid**

Agency: Salt River Project (SRP)

Grant Amount: \$57,200

PI: Mojdeh Khorsand Hedman (Arizona State University)

Share: 100% (\$57,200)

Co-PIs: N/A

Project Period: August 2018-August 2019

Project Title: **[Grant 14] Development of a Co-simulation Platform for ASPEN and PSLF to Represent Protective Relaying Functions in Transient Stability Simulations**

Agency: Salt River Project (SRP)

Grant Amount: \$62,700

PI: Mojdeh Khorsand Hedman (Arizona State University)

Share: 50% (\$31,350)

Co-PIs: Vijay Vittal (Arizona State University)

Project Period: August 2018-August 2019

Project Title: **[Grant 15] An Examination of Transmission System Flexibility Metrics**

Agency: Salt River Project (SRP)

Grant Amount: \$62,700 (\$31,350)

PI: Vijay Vittal (Arizona State University)

Share: 50% (\$31,350)

Co-PIs: Mojdeh Khorsand Hedman (Arizona State University)

Project Period: August 2018-August 2019

Project Title: **[Grant 16] Arizona Corporation Commission: Energy Modeling Tool Development**

Agency: Arizona Corporation Commission, TRIF
Grant Amount: \$95,000
PI: Gary Dirks (Arizona State University)
Share: 100% (\$95,000)
Co-PIs: Mojdeh Khorsand Hedman (Arizona State University)
Project Period: March 2019-June 2020

Professional Activities and Services

Referee:

- Reviewer for IEEE Transactions on Power Systems
- Reviewer for IEEE Transactions on Sustainable Energy
- Reviewer for IET Generation, Transmission & Distribution
- Reviewer for IEEE Transactions on Smart Grid
- Reviewer for IEEE Systems Journal
- Reviewer for Journal of Renewable and Sustainable Energy

Member:

- IEEE
- IEEE Power and Energy Society (PES)
- IEEE PES Women in Power
- IEEE PES Task Force on Integrating Relay Models in Electromechanical Simulations
- IEEE PES ASU Student Branch Chapter, Faculty Advisor

Conference and Meeting Organization:

- The 54th North American Power Symposium Session Chair
- Chair of organizing committee for the 52nd North American Power Symposium
- Member of Technical Organizing Committee of Lunar Surface Innovation Consortium (LSIC) Fall Meeting 2020: LSIC operates in collaboration with the NASA Space Technology Mission Directorate under the Lunar Surface Innovation Initiative
- IEEE PES General Meeting Panel Session Chair: DER-enabled and Sensor-enabled Active Distribution System Management, 2021
- IEEE PES General Meeting Panel Session Chair: Flexibility Requirements and Procurements: Resource Evolution and Emerging Market Products, 2021
- IEEE PES General Meeting Panellist: Integrating Relay Models with RMS Dynamic Simulations, 2021
- Session chair: Machine Learning Applications, Emerging Topics Track, NAPS 2019
- Organizing IEEE PES Phoenix Chapter and ASU joint luncheon: 2018 and 2019

ASU Committee:

- New Faculty Advisory Council, committee member, Arizona State University: 2017-2019
- Financial and infrastructure committee, School of Electrical, Computer, and Energy Engineering, Arizona State University

Other Services:

- Volunteer at Arizona Science Lab (a non-profit affinity group of the IEEE Phoenix Section; ASL educates 4-9th grade students on STEM and targets Title 1 schools)

Awards and Honors

- Clayton Griffin Paper Award, Georgia Institute of Technology Protective Relaying Conference, May 2017 and 2021.
- IEEE PES Phoenix Chapter Graduate Power Engineering Scholarship, March 2016.
- IEEE Phoenix Section Student Scholarship, January 2016.
- University Graduate Fellowship, Arizona State University, 2012.

Advising Students

Graduated Students:

- Ramin Vakili, Ph.D., Summer 2022
- Mohammad Ghaljehei, Ph.D., Spring 2022
- Yingying Wang, Ph.D., Spring 2020
- Giritharan Vijay Iswaran, MS, Summer 2022
- Byeongdoo Jeon, MS, Spring 2020
- Mingyue He, MS, Fall 2019
- Mengxi Chen, MS, Fall 2019

Current Ph.D. Students:

- Zahra Soltani, expected Spring 2023
- Mingyue He, expected Spring 2024
- Almuthana Alharbi, expected Fall 2025
- Giritharan Vijay Iswaran, expected Fall 2025
- Alaa Zewila, expected Spring 2026

Current MS student:

- Nirupama Pudukkarai Srinivas
- Hari Krishna Achuthan Parthasarathy

Past Post-doc Mentoring:

- Dr. Masoud Esmaili