# **ANAMIKA DUBEY**

Huie-Rogers Endowed Chair Associate Professor School of Electrical Engineering and Computer Science Washington State University, Pullman, WA Research Scientist,

Pacific Northwest National Lab (Joint Appointment)

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# **PROFESSIONAL PROFILE**

#### Research

- Research in power systems modeling and optimization with a focus on grid-edge integration for climate resilient operations. Leading multiple high-impact projects secured a total ~8 million U.S. dollars in research funding as the lead PI.
- Serving/served as PI/Co-PI for multiple research grants supported by National Science Foundation (NSF), Alfred P. Sloan Foundation, Department of Energy (DOE), Pacific Northwest National Laboratory, Power System Engineering Research Center, Schweitzer Engineering Laboratories.
- Recipient of NSF Career Award (2019), EECS Early Career Award (2020), Voiland College of Engineering and Architecture (VCEA) Jr. Faculty Research Award (2021), Pacesetter Award in Physical Sciences & Engineering (2021), IEEE PES Outstanding Young Engineer Award (2023).
- Appointed Huie-Rogers Endowed Chair Associate Professor of Electrical Engineering at Washington State University, starting July 2022.
- Appointed Research Scientist at Pacific Northwest National Lab (PNNL), Electricity Infrastructure and Buildings Division in the Energy and Environment Directorate, April 2022.

#### Teaching

- Supervised graduate thesis of 5 Ph.D. and 3 M.S. students. Co-advised graduate thesis of 1 Ph.D. and 1 M.S. student. Currently, advising 10 Ph.D. students and co-advising 1 Ph.D. student.
- Mentored undergraduate students on different research projects including underrepresented minority students from WSU's Pacific Northwest Louis Stokes Alliances for Minority Participation program.
- Hosted and mentored high school students in my lab for Summer Research Internship (2021, 2022).
   The internship resulted in a student-led paper accepted for publication at a premier IEEE PES conference.
- Developed 3 new courses (2 graduate-level + 1 undergraduate level) and updated 1 undergraduate-level course on electric power distribution systems. Maintained consistently good student evaluations for teaching as an instructor for undergraduate and graduate-level courses.
- Created an online course for Professional Science Master's Program (PSM) at WSU to train industry practitioners on power distribution systems engineering.

### Service

- Technical Society Leadership:
  - Associate Editor (IEEE Transactions on Power Systems, Power Engineering Letters).
  - PES Chapter Chair, IEEE Palouse Section PES Chapter
  - Secretary, IEEE PES Distribution Systems Analysis Subcommittee and IEEE PES University Education Subcommittees
- Conference Organization:
  - Conference Organization Committee Member, 2018 IEEE International Conference on Probabilistic Methods Applied to Power Systems (PMAPS)
  - Sub-area Co-chair, for Distribution System Operation and Control in the 47th IEEE Photovoltaic Specialist Conference (PVSC 47)
  - Area Chair, Area 10: Power Electronics and Grid Integration in the 48th IEEE Photovoltaic Specialist Conference (PVSC 48)
- Panel Session IEEE PES General Meeting 2020, 2019, 2018, 2017; NAPS 2021
- Tutorial Session IEEE ISGT NA 2022, IEEE ISGT NA 2021, IEEE SmartGridComm 2021
- Peer review service National Science Foundation, IEEE PES Transactions, IEEE PES conferences

# RESEARCH AND TEACHING INTERESTS

## **Electric Power Systems – Control and Optimization**

- Resilience to High-Impact Low-Probability Events
- Integration of Variable and Uncertain Distributed Energy Resources
- Optimization of Active Power Distribution Systems for Grid-edge Interfacing

# **EDUCATION QUALIFICATIONS**

### The University of Texas at Austin

Austin, TX

Ph.D. in Electrical and Computer Engineering

Aug. 2012 to Dec 2015

Dissertation:

Distributed Resource Integration Analysis and Network Design of Electric Power Distribution Systems

Advisor: Dr. Surya Santoso Cumulative GPA - 3.86/4.00

The University of Texas at Austin

Austin, TX

MSE in Electrical and Computer Engineering Aug. 2010 to May 2012

Thesis: Impacts of Electric Vehicle Loads on Utility Distribution Network Voltages

Advisor – Dr. Surya Santoso Cumulative GPA - 3.75/4.00

Indian Institute of Technology (IIT) Roorkee

Roorkee, India

Bachelor of Technology in Electrical Engineering

July 2006 to May 2010

Senior Project: Designing Expert Feeder System for Distribution System Phase Balancing

Advisor – Dr. Jaydev Sharma Cumulative GPA - 8.81/10.00

# WORK EXPERIENCE

**Huie-Rogers Endowed Chair Associate Professor** 

Washington State University,

School of Electrical Engineering and Computer Science

**Research Scientist (Joint Appointment)** 

Pacific Northwest National Lab (PNNL)

**Assistant Professor** 

Washington State University,

School of Electrical Engineering and Computer Science

**Research Assistant** 

The University of Texas at Austin,

Department of Electrical Engineering and Computer Science

**Teaching Assistant** 

The University of Texas at Austin,

Department of Electrical Engineering and Computer Science

**Summer Internship** 

Mitsubishi Electric Research Laboratories (MERL)

**Summer Internship** 

Mitsubishi Electric Research Laboratories (MERL)

**Summer Internship** 

Defense Research Development Organization (DRDO)

Pullman, WA Aug. 2022 - Present

Richland, WA

April 2022 – Present

Pullman, WA

*Jan.* 2016 – *July* 2022

Austin, TX

Dec. 2011 – Dec. 2015

Austin, TX

Aug. 2010 - Dec. 2011

Boston, MA

May 2013 - August 2013

Boston, MA

May 2011 - August 2011

Dehradun, INDIA

June 2009 - August 2009

## **TEACHING EXPERIENCE**

A. Teaching Summary (Courses Taught at WSU)

Course No.	Course Name	Semester	Students	Evaluation
EE 361	Electric Power Systems	Fall 2022	24	
EE 485	Electric Power Distribution Systems	Spring 2022	15	4.1
EE 361	Electric Power Systems	Fall 2021	13	4.0
EE 485	Electric Power Distribution Systems	Spring 2021	27+6 (PSM)	4.1 (avg)
EE 361	Electric Power Systems	Fall 2020	29	4.6
EE 529	Power Quality Analysis	Spring 2020	5	4.7
EE 485	Electric Power Distribution Systems	Spring 2020	27+5 (PSM)	4.0 (avg)
EE 485	Electric Power Distribution Systems	Spring 2019	30	3.9
EE 221	Numerical Computing for Engineers	Fall 2018	89	3.5
EE 529	Power Quality Analysis	Spring 2018	9	4.6
EE 582.02	New Course- Reliability Assessment of Complex Systems	Fall 2017	4	4.8
EE 485	Electric Power Distribution Systems	Fall 2017	15	4.5
EE 483.03	New Course- Reliability Assessment of Complex Systems	Fall 2016	4	5.0
EE 529	New Course- Power Quality Analysis	Spring 2016	4	4.7

### B. List of Courses Taught at WSU

Instructor

**Washington State University** 

EE 361 Electric Power Systems

Fall 2020, Fall 2021, Fall 2022

- Undergraduate level course
- Course objectives are to introduce the students to the fundamental characteristics, modeling, and behavior of power system components, and skills needed to model and analyze power systems.
- Contact Hours Two 1.5-hour lectures per week, 2020 course evaluation – 28% responded; overall instructor rating 4.6 (average EECS 4.3, VCEA 4.4). 2021 course evaluation – 70% responded; overall instructor rating 4.1 (average EECS 4.3, VCEA 4.4)

**Instructor** 

**Washington State University** 

EE 221 Numerical Computing for Engineers Fall 2018

- Undergraduate level course
- Course objective is to provide students with the ability to competently use MATLAB programming environment, understand mathematical concepts upon which numerical methods rely, and program typical numerical methods in MATLAB programming environment.
- Contact Hours Two 50-min lectures per week, 2018 course evaluation 56% responded; overall instructor rating 3.5 (average EECS 4.2, VCEA 4.2).

#### **Instructor**

#### **Washington State University**

EE 485 Electric Power Distribution Systems (Previously EE 483.01) Fall 2017, Every Spring 2019 -2022

- Undergraduate level course
- Course objectives are to provide each student with the ability to analyze, design, and operate electric power distribution systems. The instructor modified and extended upon the existing course material. The theory was supplemented by modern software tools for system planning and operation.
- Contact Hours Two 1.5-hour lecture per week, 2017 course evaluation – 92% responded: overall instructor rating 4.5 (average EECS 4.2, VCEA 4.2). 2019 course evaluation – 74% responded: overall instructor rating 3.9 (average EECS 4.2, VCEA 4.1). 2020 course evaluation – 68% responded: overall instructor rating 4.0 (average EECS 4.1, VCEA 4.2). 2021 course evaluation – 60% responded: overall instructor rating 4.1 (average EECS 4.3, VCEA 4.4).

#### **Instructor**

**Washington State University** 

Fall 2017

EE 582.02 Reliability Assessment of Complex Systems

- New Course Graduate level course
- Course objectives are to provide the students with a fundamental background on methods for quantitative reliability calculation specifically, when applied to the electric power grid. Fundamentals on bulk power system reliability, including adequacy assessment and composite system reliability were discussed.

• Contact Hours – Two 1.5-hour lecture per week, 2017 course evaluation - 100% responded: overall instructor rating 4.8 (average EECS 4.2, VCEA 4.2).

Instructor Washington State University

EE 483.03 Reliability Assessment of Complex Systems

Fall 2016

- New Course Undergraduate level course
- This course provided the students with the mathematical tools to model and conduct reliability evaluation of complex topological systems. It also introduced the fundamentals of reliability evaluation methods for complex systems and its application to electric power distribution systems.
- Contact Hours Three 1-hour lecture per week, 2016 course evaluation 100% responded; overall instructor rating 5.0 (average EECS 4.2, VCEA 4.3)

Instructor Washington State University

EE 529 Power Quality Analysis (Previously EE 582.01)

Spring 2016, 2018, 2020

- New Course Graduate level course
- Presented the fundamentals of electric power quality and methods to analyze and mitigate the commonlyoccurring power quality phenomenon in electric distribution systems. The course entails analytical approach to model, operate, and analyze distribution circuits in the presence of power quality problems and present design principles for their mitigation.
- Contact Hours Two 1.5-hour lecture per week,
   2016 course evaluation 100% responded; overall instructor rating 4.7 (average EECS 4.3, VCEA 4.2)
   2018 course evaluation 78% responded: overall instructor rating 4.6 (average EECS 4.3, VCEA 4.3)
   2020 course evaluation 60% responded: overall instructor rating 4.7 (average EECS 4.3, VCEA 4.2)

### C. Other Teaching Experience

### **Teaching Assistant**

The University of Texas at Austin

EE 302 - Introduction to Electrical Engineering,

Fall 2011, Spring 2011

- Head TA: Led a group of 4 TAs coordinating 6 lab sessions
- Responsibilities included: design the lecture and experiment setup, delivering lectures for lab classes, assisting with the experiments, and preparing and grading lab exams and reports.

**Teaching Assistant** 

The University of Texas at Austin Fall 2010

*EE 411 – Circuit Theory* 

• Responsibilities included holding problem sessions and discussion classes, setting weekly quizzes, and grading homework and exams.

### **STUDENT ADVISING**

#### A. Current Graduate Students

- 1. Surendra Bajagain, Ph.D. starting date Spring 2019 (PhD)
- 2. Abodh Paudyal, starting date Fall 2020 (PhD)
- 3. Daniel Glover, starting date Fall 2021 (PhD)
- 4. Sajjad Uddin Mahmud, starting date Spring 2022 (PhD)
- 5. Ninad Gaikwad, starting date Spring 2022 (PhD)
- 6. Aryan Ritwajeet Jha, starting date Fall 2022 (PhD)
- 7. Shishir Lamichhane, starting date Spring 2023 (PhD)
- 8. Anup Parajuli, starting date Fall 2023 (PhD)
- 9. Arun Jose P, starting date Fall 2023 (PhD)
- 10. Charlotte Wertz, starting date Fall 2023 (PhD)
- 11. Srayashi Konar (Co-advised with Dr. Anurag Srivastava), PhD

### **B.** Postdoctoral Researchers

- 1. Venkateswara Reddy Motakatla (2/1/2020-8/31/2021)
- 2. Shuva Paul (6/1/2020-1/31/2021)
- 3. Subho Paul (10/15/2022 present)

#### C. Students Advisees Graduated at WSU

- 1. Rabayet Sadnan, Ph.D., May 2023, "Distributed Computation and Optimization for Electric Power Distribution Systems," (working as Research Engineer at Pacific Northwest National Laboratories)
- 2. Gayathri Krishnamoorthy, Ph.D. May 2022, "Frequency regulation service provision from distribution Connected battery energy storage systems" (working as Research Engineer at National Renewable Energy Laboratories).
- 3. Mohammad Ostadijafari, Ph.D. Dec 2021, "Coordination of Demand-side Flexibility in Power Distribution Systems," (working as Power Systems Software Engineer at GE Digital).
- 4. Rahul Jha, Ph.D. Dec 2020, "Network-Level Optimization for Volt/Var Control in Unbalanced Electric Power Distribution Systems," (working as Senior Engineer at ComEd).
- 5. Shiva Poudel, Ph.D. Summer 2020, "Quantifying and Improving Resilience in Power Distribution Systems" (working as Research Engineer at Pacific Northwest National Laboratories).
- Lusha Wang, Ph.D. May 2022, (co-advised with Dr. Noel Schulz), "Optimal Planning and Operation of Distribution Systems with Massive Electric Vehicles," (Postdoctoral Researcher at Argonne National Laboratories).
- 7. Andrew Ian Cannon, M.S. Dec 2021, "Distributed Algorithms to Accurately Share Reactive Power in Islanded Microgrid Systems".
- 8. Gayathri Krishnamoorthy, M.S. May 2018, "An Iterative Co-simulation Framework for the Integrated Transmission and Distribution System Analysis," (continuing as Ph.D. student).
- 9. Anandini Bharadwaj, M.S., May 2019, "Operational Topology Estimation of Three Phase Unbalanced Power Distribution Systems with Outages".
- 10. Arun Imayakumar, M.S. Dec 2019 (co-advised with Dr. Anjan Bose), "Anomaly Detection for Primary Distribution System Measurements using Principal Component Analysis".

#### D. Graduate Committee Member at WSU

- 1. Grishma Manandhar, SES Ph.D.
- 2. Nathan Gray, EECS, Ph.D.
- 3. Rabia Khan, EECS, Ph.D.
- 4. Linli Jia, EECS, Ph.D.
- 5. Amir Gholami, EECS, Ph.D. (Graduated)
- 6. Chuan Qin, EECS, Ph.D. (Graduated)
- 7. Niloy Patari, EECS, Ph.D. (Graduated)
- 8. Hongda Ren, EECS, Ph.D. (Graduated)
- 9. Abdullah Al Maruf, EECS, Ph.D. (Graduated)
- 10. Monish Mukherjee, EECS, Ph.D. (Graduated)
- 11. Shikhar Pandey, EECS, Ph.D. (Graduated)
- 12. Arun Imayakumar, EECS, M.S. (Graduated)
- 13. Venkatesh Venkataramanan, EECS, Ph.D. (Graduated)
- 14. Kefei Mo, EECS, Ph.D. (Graduated)
- 15. Mohammad Ghanaatian Jobzari, EECS, Ph.D. (Graduated)
- 16. Aslan Mojallal, EECS, Ph.D. (Graduated)
- 17. Kefei Mo, EECS, M.S. (Graduated)
- 18. Poorva Sharma, EECS M.S. (Graduated)

### E. Graduate Committee Member outside WSU

- 1. Adedoyin Inaolaji, Florida International University, PhD, (currently enrolled)
- 2. Yaswanth Nag Velaga, Colorado School of Mines, (Graduated, 2019)
- 3. Nayara Gomes de Aguiar, University of Notre Dame (Graduated, 2021)

### F. Undergraduate Research Students

- 1. Faculty mentor, Senior Design Project, Team Aquarius, Title Reinforcement Learning for Distribution Grid Voltage Regulation, 2021.
- 2. Advised a group of 4 students for undergraduate research under WSU LSAMP program 2018-2019.

3. Advised a group of 4 students as the principal investigator (PI) for the project "Concept for Implementing Camera Technology for Diagnostic Applications on the Rotor of a Spinning Hydroelectric Generator," sponsored by WSU Power Engineering Partnership (PEP) Seed Grant 2017-2018.

## **AWARDS AND HONORS**

- IEEE PES Outstanding Young Engineer Award (2023) For contributions to optimization and control of electric power distribution systems
- Huie-Rogers Endowed Chair Associate Professor of Electrical Engineering (July 2022).
- Pacesetter Award (2021): Physical Sciences and Engineering for research in optimization and control of electric power distribution systems with a focus on integration of grid-edge technologies.
- Voiland College of Engineering and Architecture (VCEA) Jr. Faculty Research Award, WSU Pullman, awarded in 2021.
- EECS Early Career Award in the School of Electrical Engineering and Computer Science, WSU Pullman, awarded in 2020.
- NSF CAREER Award (2/1/20-1/31/25), awarded in 2019.
- IEEE Transactions on Smart Grid Best Reviewer Award, 2019.
- Best paper award, NAPS 2018, Second Prize Shiva Poudel, Monish Mukherjee, and Anamika Dubey, "Optimal Positioning of Mobile Emergency Resources for Resilient Restoration," 2018 IEEE NAPS, Fargo, ND, USA.
- Best paper award, NAPS 2018, Second Prize Yaswanth Nag Velaga, Gayathri Krishnamoorthy, Anamika Dubey, Aoxia Chen, P.K. Sen, "Transmission-Distribution Co-simulation: Model validation with standalone simulation," 2018 IEEE NAPS, Fargo, ND, USA.
- U.S. patent, "Locating Multi-Phase Faults in Ungrounded Power Distribution Systems," Patent US 20150226780 A1, 13 Aug. 2015.
- U.S. patent, "Decoupled Three-Phase Power Flow Analysis Method for Unbalanced Power Distribution Systems," Patent US 20130226482 A1, 29<sup>th</sup> Aug. 2013.

# RESEARCH AND FUNDING GRANTS

### Serving/Served as the Principal Investigator

- 1. Resilient Communities via Risk-driven Infrastructure Planning and Automated Restoration (Recuperat), selected for award by the U.S. Department of Energy (DOE) Solar Energy Technologies Office, \$4 million, 3/1/2023 28/2/2026.
- 2. Collaborative Research: CPS: Medium: Adaptive, Human-centric Demand-side Flexibility Coordination At-scale in Electric Power Networks, National Science Foundation (NSF), Cyber-physical System, \$1 million, 9/1/22-8/31/25.
- 3. Grid Data Transport Analysis Framework (GDTAF), Subcontract agency BATTELLE/PNNL, Awarding agency Department of Energy (DOE), WSU's support \$206,750, 4/25/22 5/31/23.
- 4. CAREER: Enabling Operational Resilience in Decentralized Electric Power Distribution Systems, National Science Foundation (NSF), \$500,002, 2/1/20-1/31/25
- 5. GridAPPS-D Layered Architecture for Distributed Applications, Subcontract agency BATTELLE/PNNL, Awarding agency Department of Energy (DOE), WSU's support \$250,000, 3/1/21 8/31/23.
- 6. Grid-Ready Energy Analytics Training with Data, Department of Energy, Project Lead: EPRI, WSU's support \$195,000, 8/16/19 5/15/24.
- 7. Robust Distributed Control for Power Sharing in Islanded Industrial Microgrids, Schweitzer Engineering Laboratories, \$267,770, 5/15/2019-12/31/2022.
- 8. Bilateral Contract Design and Retail Market Development for Flexible Electric Power Systems with Residential Demand-side Participation, Alfred P. Sloan Foundation, \$249,785, 1/1/19 8/15/22.

- 9. Development of an Open-Source Advanced Distribution Management System (ADMS), Subcontract agency BATTELLE PNNL, Awarding agency Department of Energy (DOE), WSU's support \$ 1,052,902, 8/16/16 12/31/20.
- 10. Economical and engineering aspects of proactive demand-participation: Hierarchical versus bilateral control structure, Funding agency Department of Energy (DOE), \$360,000 (WSU's support \$210,000), 10/1/16 6/30/19.
- 11. Framework to analyze interactions between transmission and distributions systems with high distributed energy resources (DERs) penetrations, Power Systems Engineering Research Center (PSERC), \$150,000, 07/01/17-08/31/19.

### Serving/Served as the Co-Investigator

- 12. CITADELS, Subcontract agency BATTELLE/PNNL, Awarding agency Department of Energy (DOE), WSU's support \$495,000, 1/1/2020-1/31/2023.
- 13. Interdisciplinary Graduate Training Program in AI and Data Science for Complex Engineering Applications (TAIDCEA), Department of Education, \$1,217,520 (8/2021 8/2024)
- 14. AGGREGATE: dAta-driven modelinG preservinG contRollable dEr for outaGe mAnagemenT and rEsiliency, Funding agency Department of Energy (DOE), \$1,500,000, 10/1/17-6/30/21.

## **PUBLICATIONS AND PATENTS**

### A. Monograph/Book Chapters

- [B1]. Anamika Dubey and Sumit Paudyal (2023), "Distribution System Optimization to Manage Distributed Energy Resources (DERs) for Grid Services", Foundations and Trends® in Electric Energy Systems: Vol. 6: No. 3-4, pp 120-264. http://dx.doi.org/10.1561/3100000030
- [B2]. Anamika Dubey (2023), "Preparing the Power Grid for Extreme Weather Events: Resilience Modeling and Optimization", In: J.S. Tietjen, M.D. Ilic, L. Bertling Tjernberg., N.N. Schulz, (editors) Women in Power. Women in Engineering and Science. Springer, Cham. <a href="https://doi.org/10.1007/978-3-031-29724-3">https://doi.org/10.1007/978-3-031-29724-3</a> 8
- [B3]. Anamika Dubey, Surya Santoso, "Power System Harmonics," in *Electric Power Engineering Research and Education A festschrift for Gerald T. Heydt*, E. Kyriakides, et.al., Ed. Springer-Verlag, Dec 2014.
- [B4]. Surya Santoso, Anamika Dubey, "Power Quality," in *Handbook of Electric Power Calculations*, H. W Beaty and S. Santoso, Ed. 4th edition, McGraw-Hill, 2015.

### **B.** Refereed Journal Articles (Published/In-press) # - my advisees, \*- my co-advisees

- [J1]. S. Konar, A. K. Srivastava and A. Dubey, "Distributed Optimization for Autonomous Restoration in DER-Rich Distribution System," in IEEE Transactions on Power Delivery, vol. 38, no. 5, pp. 3205-3217, Oct. 2023, doi: 10.1109/TPWRD.2023.3269724.
- [J2]. Surendra Bajagain, Chuan Qin, Sanjeev Pannala, Anurag Srivastava, and Anamika Dubey, "Integrating Solar Resources and Topology Estimation Modules in Industrial ADMS Environment" IEEE Transactions on Industry Applications, Sept 2023.
- [J3]. M. Ostadijafari, G. Manandhar, A. Dubey, H. A. Love and O. Bergland, "Principal-Agent Model for Bilateral Contract Design to Incentivize Residential Demand-side Flexibility," in IEEE Transactions on Energy Markets, Policy and Regulation, doi: 10.1109/TEMPR.2023.3304559.
- [J4]. C. Qin, L. Jia, S. Bajagain<sup>#</sup>, S. Pannala, A.K. Srivastava, A. Dubey, "An Integrated Situational Awareness Tool for Resilience-Driven Restoration with Sustainable Energy Resources," accepted IEEE Transactions on Sustainable Energy, Jan 2023.
- [J5]. M. Macmillan, K. Wilson, S. Baik, J. P. Carvallo, A. Dubey, C. A. Holland, "Shedding light on the economic costs of long-duration power outages: A review of resilience assessment methods and strategies", Energy Research & Social Science, Volume 99, 2023, ISSN 2214-6296.
- [J6]. A. P. Reiman et al., "App Deconfliction: Orchestrating Distributed, Multi-Agent, Multi-Objective Operations for Power Systems," in IEEE Access, vol. 11, pp. 40314-40327, 2023, doi: 10.1109/ACCESS.2023.3269422.
- [J7]. A. Poudyal\*, S. Poudel\*, and A. Dubey, "Risk-based Active Distribution System Planning for Resilience against Extreme Weather Events," accepted IEEE Transactions on Sustainable Energy, Nov 2022.

- [J8]. S. Bajagain<sup>#</sup> and A. Dubey, "Iterative Distribution System State Estimation for Integrated Primary and Split-phase Secondary Feeder Monitoring," accepted IEEE Transactions on Power Delivery, Nov 2022.
- [J9]. R. R. Jha\*, A. Inaolaji, B. D. Biswas, A. Suresh, A. Dubey, S. Paudyal, S. Kamalasadan, "Distribution Grid Optimal Power Flow (D-OPF): Modeling, Analysis, and Benchmarking," IEEE Transactions on Power Systems, Oct 2022.
- [J10]. R. Sadnan<sup>#</sup>, S. Poudel, and A. Dubey, K. Schneider, "Layered Coordination Architecture for Resilient Restoration of Power Distribution Systems," IEEE Transactions on Industrial Informatics, May 2022.
- [J11]. C. Qin, S. Bajagain\*, S. Pannala, A.K. Srivastava, A. Dubey, "Enhanced Situational Awareness for DER-Rich Distribution Systems under Pre- and Post-Outage," IEEE Transactions on Power Delivery, July 2022.
- [J12]. N. Aguiar, A. Dubey, and V. Gupta, "Pricing Demand-Side Flexibility with Noisy Consumers: Mean-Variance Trade-Offs," published IEEE Transactions on Power Systems, April 2022.
- [J13]. L. Wang\*, A. Dubey, A. Gebremedhin, A.K. Srivastava, and N. Schulz, "MPC-Based Decentralized Voltage Control in Power Distribution Systems with EV and PV Coordination," published IEEE Transactions on Smart Grid, Feb 2022.
- [J14]. M. Ostadijafari\*, JC Bedoya, W. Wang, A. Dubey, C-C Liu, N. Yu, "Proactive Demand-side Participation: Centralized versus Transactive Demand-Supply Coordination" Electric Power Systems Research (EPSR), Jan. 2022.
- [J15]. K. P. Schneider, J. Glass, C. Klauber, B. Ollis, M. J. Reno M. Burck, L. Muhidin, A. Dubey, W. Du, L. Vu, J. Xie, D. Nordy, W. Dawson, J. Hernandez-Alvidrez, A. Bose, D. Ton, G. Yuan, "A Framework for Coordinated Self-Assembly of Networked Microgrids using Consensus Algorithms," IEEE Access, Nov. 2021.
- [J16]. H. Ren, R.R. Jha<sup>#</sup>, A. Dubey, and N. Schulz, "Extremum-Seeking Adaptive-Droop for Model-free and Localized Volt-VAR Optimization," IEEE Transactions on Power Systems, July 2021.
- [J17]. N. Aguiar, A. Dubey, and V. Gupta, "Network-Constrained Stackelberg Game for Pricing Demand Flexibility in Power Distribution Systems," IEEE Transactions on Smart Grid, May 2021.
- [J18]. R. R. Jha<sup>#</sup> and A. Dubey, "Network-Level Optimization for Unbalanced Power Distribution Systems: Approximation and Relaxation," IEEE Transactions on Power Systems, March 2021.
- [J19]. R. Sadnan<sup>#</sup> and A. Dubey, "Distributed Optimization using Reduced Network Equivalents for Radial Power Distribution Systems," IEEE Transactions on Power Systems, Jan 2021.
- [J20]. Shiva Poudel<sup>#</sup> and Anamika Dubey, "A Two-Stage Framework for Service Restoration of Power Distribution Systems," IET Smart Grid, Jan 2021.
- [J21]. Shiva Poudel\*, Anamika Dubey, and Kevin P. Schneider, "A Generalized Framework for Service Restoration in a Resilient Power Distribution System," IEEE Systems Journal, Aug 2020.
- [J22]. Rahul R Jha<sup>#</sup>, Anamika Dubey and Kevin P. Schneider, "Coordinated Centralized and Local Control for Conservation Voltage Reduction of Unbalanced Power Distribution Systems," IET Smart Grid, August 2020.
- [J23]. J.C. Bedoya, M. Ostadijafari<sup>#</sup>, A. Dubey, and C.C Liu, "Decentralized Transactive Energy for Flexible Resources in Distribution Systems", IEEE Transactions on Sustainable Energy, pp. 1-10, 2020.
- [J24]. M. Ostadijafari<sup>#</sup> and A. Dubey, "Tube-based Model Predictive Controller for Building's Heating Ventilation and Air Conditioning (HVAC) System," IEEE Systems Journal, pp.1-10, 2020.
- [J25]. S. Poudel\*, A. Dubey, P. Sharma, and Kevin P. Schneider, "Advanced FLISR with Intentional Islanding Operations in an ADMS Environment Using GridAPPS-D," IEEE Access, May 2020.
- [J26]. R. Sadnan<sup>#</sup>, G. Krishnamoorthy<sup>#</sup>, and A. Dubey, "Transmission and Distribution (T&D) Cosimulation Framework: Analysis and Comparison of T&D Coupling Strength," IEEE Access, Jan 2020.
- [J27]. M. Ostadijafari\*, Rahul Ranjan Jha\* and A. Dubey, "Demand-side Participation via Economic Bidding of Responsive Loads and Local Energy Resources", IEEE Open Access Journal of Power and Energy, pp. 1-10, 2020.
- [J28]. Shiva Poudel\*, Anamika Dubey, and Anjan Bose, "Risk-based Probabilistic Quantification of Power Distribution System Operational Resilience," IEEE Systems Journal on Aug 2019.
- [J29]. M. Ostadijafari\*, Anamika Dubey, and Nanpeng Yu, "Linearized Price-Responsive HVAC Controller for Optimal Scheduling of Smart Building Loads," IEEE Transactions on Smart Grid, Feb 2019.

- [J30]. A. Gandluru<sup>#</sup>, Shiva Poudel<sup>#</sup>, and Anamika Dubey, "Joint Estimation of Operational Topology and Outages for Unbalanced Power Distribution Systems," IEEE Transactions on Power Systems, Aug 2019.
- [J31]. Gayathri Krishnamoorthy<sup>#</sup>, and Anamika Dubey, "Transmission-Distribution Co-Simulation: Analytical Methods for Iterative Coupling," IEEE Systems Journal, July 2019.
- [J32]. J. C. Bedoya, C-C Liu, G. Krishnamoorthy\*, and Anamika Dubey, "Bilateral Electricity Market in a Distribution System Environment," IEEE Transactions on Smart Grid, March 2019.
- [J33]. Rahul Ranjan Jha\*, Anamika Dubey, Chen-Ching Liu, Kevin, P. Schneider, "Bi-Level Volt-VAR Optimization to Coordinate Smart Inverters with Voltage Control Devices," IEEE Transactions on Power Systems, January 2019.
- [J34]. P.K. Sen, Yaswanth Nag Velaga\*, Aoxia Chen, Gayathri Krishnamoorthy\*, Anamika Dubey, "Advancements in Co-Simulation Techniques in Combined T&D Systems Analysis," IET The Journal of Engineering, Jan 2019.
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- [J43]. Anamika Dubey and Surya Santoso, "Electric Vehicle Charging on Residential Distribution Systems: Impacts and Mitigations," IEEE Access, vol.3, pp. 1871-1893, Oct. 2015.
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- [J45]. A. Sharma, Anamika Dubey, Pushkar Tripathi and Vinod Kumar, "Pose invariant virtual classifiers from single training image using novel hybrid-eigenfaces," Neurocomputing 73 (10), 1868-1880, 2010.
- [J46]. A. Sharma, Anamika Dubey, A.N. Jagannatha and R.S. Anand, "Pose invariant face recognition based on hybrid-global linear regression," Neural computing & applications 19 (8), 1227-1235, 2010.

### C. Refereed Conference Articles (Submitted/Published/Accepted)

- [C1]. Rabayet Sadnan, Nathan Grey, Anamika Dubey, Anjan Bose, "Effects of Communication Systems Attributes on Distributed Microgrid Coordination for Bulk-grid Services," accepted IEEE SmartGridComm Conference, 2023.
- [C2]. Nathan Grey, Rabayet Sadnan, Anjan Bose, Anamika Dubey, Thanh Long Vu, Jing Xie, Laurentiu D. Marinovici, Kevin P. Schneider, Cecilia Klauber, and Wei Trinh "Distributed Coordination of Networked Microgrids for Voltage Support in Bulk Power Grids," accepted for presentation at the IEEE IAS annual meeting, 2023.
- [C3]. Subho Paul, Nathan Gray, Anamika Dubey, Anjan Bose, Md Touhiduzzaman, and James Ogle, Robustness Assessment of Distributed OPF at Cyber-Physical Co-simulation Framework under Communication Non-idealities," accepted for presentation at the IEEE IAS annual meeting, 2023.
- [C4]. Daniel Glover and Anamika Dubey, "Centralized Coordination of DER Smart Inverters using Deep Reinforcement Learning", accepted for presentation at the IEEE IAS annual meeting, 2023.

- [C5]. A. Poudyal, C. Wertz, A. M. Nguyen, S. U. Mahmud, A. Dubey and V. Gunturi, "Spatiotemporal Impact Assessment of Hurricanes and Storm Surges on Electric Power Systems," 2023 IEEE Power & Energy Society General Meeting (PESGM), Orlando, FL, USA, 2023, pp. 1-5, doi: 10.1109/PESGM52003.2023.10252559.
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- [C8]. S. Bajagain and A. Dubey, "Effects of Approximate Residential Distribution System Models on Power Systems Analysis," 2023 IEEE Power & Energy Society General Meeting (PESGM), Orlando, FL, USA, 2023, pp. 1-5, doi: 10.1109/PESGM52003.2023.10252216.
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- [C10]. R. Sadnan, and A. Dubey "Distributed Computing for Scalable Optimal Power Flow in Large Radial Electric Power Distribution Systems with Distributed Energy Resources," HICSS 56, Jan 2023.
- [C11]. S. Bajagain<sup>#</sup>, C. Qin, S. Pannala, A.K. Srivastava, and A. Dubey, "Advanced Applications for Integrating Solar Power Resource and Topology Estimation in ADMS," IEEE IAS Meeting, 2022.
- [C12]. A. Anderson, J. Barr, S. Vadari, and A. Dubey "Real-time Distribution Simulation and Application Development for Power Systems Education," IEEE PES General Meeting, 2022.
- [C13]. S. Bajagain<sup>#</sup> and A. Dubey, "Spectral Clustering for Fast Outage Detection and Visualization in Power Distribution Systems," IEEE PES General Meeting, 2022.
- [C14]. R. Sadnan<sup>#</sup> and A. Dubey, "Distributed Optimization in Distribution Systems with Grid-Forming and Grid-Supporting Inverters," IEEE PES General Meeting, 2022.
- [C15]. G. Krishnamoorthy, A. Dubey, and A. H. Gebremedhin, "An Open-source Environment for Reinforcement Learning in Power Distribution Systems," IEEE PES General Meeting, 2022 (Selected for Best Paper Session).
- [C16]. A. Poudyal\*, V. Iyengar, D. Garcia-Camargo, and A. Dubey "Spatiotemporal Impact Assessment of Hurricanes on Electric Power Systems," IEEE PES General Meeting, 2022 (Selected for Best Paper Session)
- [C17]. A. Poudyal\*, S. Poudel\*, and A. Dubey, "A Risk-Driven Probabilistic Approach to Quantify Resilience in Power Distribution Systems", PMAPS 2022
- [C18]. Nathan Grey, Rabayet Sadnan<sup>#</sup>, Anjan Bose, and Anamika Dubey, "Effects of Communication Network Topology on Distributed Optimal Power Flow for Radial Distribution Networks," presented, 2021 North American Power Symposium (NAPS)
- [C19]. Anurag Nagpure, Chee-Wooi Ten, and Anamika Dubey, "Bisection Search of Faulted Segment Based on Radially Energized Distribution Feeder," presented, 2021 North American Power Symposium (NAPS)
- [C20]. Gayathri Krishnamoorthy, Anamika Dubey, and Assefaw H. Gebremedhin, "Reinforcement Learning for Battery Energy Storage Dispatch augmented with Model-based Optimizer," presented, IEEE SmartGridComm 2021, Aachen, Germany, 24-28 Oct. 2021.
- [C21]. Rabayet Sadnan<sup>#</sup>, Tom Asaki and Anamika Dubey, "Online Distributed Optimization in Radial Power Distribution Systems: Closed-Form Expressions," presented, IEEE SmartGridComm 2021, Aachen, Germany, 24-28 Oct. 2021.
- [C22]. R. Sadnan<sup>#</sup> and A. Dubey, "Learning Optimal Power Flow Solutions using Linearized Models in Power Distribution Systems," presented, IEEE PVSC 48, 2021 (Best Student Paper Award).
- [C23]. Andrew I.H. Cannon<sup>#</sup>, A. Dubey, G. Zweigle. and E. Blood, "Distributed Optimal Reactive Power Control in Islanded Microgrids with Voltage-Source Inverters," accepted, IEEE PVSC 48, 2021.
- [C24]. P. Paniyil, Naireeta Deb, Vishwas Powar, Kevin Bai, Jiangfeng Zhang, Anamika Dubey and Rajendra Singh, "Batteries and Free Fuel based Photovoltaics and Complimentary Wind Energy based DC Power Networks as 100% Source of Electric Power around the Globe," accepted, IEEE PVSC 48, 2021 (Best Poster Award Finalist).
- [C25]. Andrew I.H. Cannon<sup>#</sup>, A. Dubey, G. Zweigle. and E. Blood, "Distributed Optimal Reactive Power Control in Islanded Microgrids with Voltage-Source Inverters," accepted, IEEE PowerTech 2021.

- [C26]. M. Ostadijafari<sup>#</sup>, J. C. Bedoya, A. Dubey, C.C. Liu, "Bilateral Market for Distribution-level Coordination of Flexible Resources using Volttron," accepted, IEEE PowerTech 2021.
- [C27]. A.A. Maruf, A. Dubey, and S. Roy, "Small-Signal Voltage Stability Analysis for Droop Controlled Inverter-based Microgrids: An Algebraic Graph Theory Perspective," accepted, IEEE PES GM 2021.
- [C28]. Shuva Paul\*, Shiva Poudel\*, A. Dubey, "Planning for Resilient Power Distribution Systems using Risk-Based Quantification and Q-Learning," accepted, IEEE PES GM 2021.
- [C29]. Surendra Bajagain<sup>#</sup>, Anamika Dubey, "Harmonic Distortion Analysis in North American Residential Power Distribution Systems," accepted, IEEE PES GM 2021.
- [C30]. Rabayet Sadnan<sup>#</sup>, Nathan Gray, Anamika Dubey, and Anjan Bose, "Distributed Optimization for Power Distribution Systems with Cyber-Physical Co-simulation," accepted, IEEE PES GM 2021.
- [C31]. Motakatla Venkateswara Reddy<sup>#</sup> and Anamika Dubey, "Primary Voltage Forecasting in Distribution System using Principal Component Analysis," accepted, IEEE PES GM 2021.
- [C32]. Rabayet Sadnan<sup>#</sup>, Rahul Jha<sup>#</sup> and Anamika Dubey, "Distributed Voltage Control for Network-level Optimization in Radial Power Distribution Systems," 2020 52nd North American Power Symposium, Tempe, AZ on April 11-13, 2021, virtual format.
- [C33]. R. Sadnan<sup>#</sup>, A. Dubey, "Real-Time Distributed Control of Smart Inverters for Network-level Optimization," IEEE SmartGridComm 2020, Nov. 11-12, 2020, virtual format.
- [C34]. Rahul Ranjan Jha<sup>#</sup> and Anamika Dubey, "Coordinated Voltage Control for Conservation Voltage Reduction in Power Distribution Systems," IEEE PES GM 2020, virtual format.
- [C35]. Monish Mukherjee, Shiva Poudel\*, Anamika Dubey, and Anjan Bose, "A Framework to Quantify the Value of Operational Resilience for Electric Power Distribution Systems", 2020 IEEE Power & Energy Society T & D Conference, Chicago, IL, 2020, pp. 1-5
- [C36]. Arun Abhishek Imayakumar\*, Anamika Dubey, and Anjan Bose, "Anomaly Detection for Primary Distribution System Measurements using Principal Component Analysis," Texas Power and Energy Conference: TPEC, Feb 6-7, 2020.
- [C37]. Mohammad Ostadijafari\*, Rahul Ranjan Jha\* and Anamika Dubey, "Aggregation and Bidding of Residential Demand Response into Wholesale Market," Texas Power and Energy Conference: TPEC, Feb 6-7, 2020.
- [C38]. Monish Mukherjee, Shiva Poudel<sup>#</sup>, Anamika Dubey, and Anjan Bose, "Risk-driven Planning for System Upgrades to Enhance Resilience of Distribution Systems," Texas Power and Energy Conference: TPEC, Feb 6-7, 2020.
- [C39]. Rahul Ranjan Jha<sup>#</sup>, Anamika Dubey, Tianqi Hong and Dongbo Zhao "Distributed Algorithm for Volt-VAr Optimization in Unbalanced Distribution System," IEEE ISGT North America, Feb 17-20, 2020.
- [C40]. Juan Carlos Bedoya, Ahmed Abdelhadi, Chen-Ching Liu, Anamika Dubey, "A QCQP and SDP Formulation of the Optimal Power Flow Including Renewable Energy Resources" proceedings of IEEE 5<sup>th</sup> International Symposium on Systems Engineering, Oct 1-3, 2019, Edinburgh, Scotland, UK.
- [C41]. Rabayet Sadnan<sup>#</sup>, Gayathri Krishnamoorthy<sup>#</sup>, and Anamika Dubey "Distributed PV Penetration Impact Analysis on Transmission System Voltages using Co-Simulation" 51st North American Power Symposium, October 13-15, 2019, Wichita, Kansas.
- [C42]. Rahul Ranjan Jha# and Anamika Dubey "Local Smart Inverter Control to Mitigate the Effects of Photovoltaic (PV) Generation Variability" 51st North American Power Symposium, October 13-15, 2019, Wichita, Kansas.
- [C43]. Mohammad Ostadijafari\*, Rahul Ranjan Jha\* and Anamika Dubey "Conservation Voltage Reduction by Coordinating Legacy Devices, Smart Inverters and Battery," 51st North American Power Symposium, October 13-15, 2019, Wichita, Kansas.
- [C44]. Anandini Gandluru<sup>#</sup> and Anamika Dubey "A Non-Exhaustive Search Algorithm to Identify Distribution Grid Operational Topology," 51st North American Power Symposium, October 13-15, 2019, Wichita, Kansas.
- [C45]. Abdullah Al Maruf, Mohammad Ostadijafari\*, Anamika Dubey, and Sandip Roy, "Small-Signal Stability Analysis for Droop-Controlled Inverter-based Microgrids with Losses and Delays," ACM e-Energy Conference'19, June 2019, Phoenix, AZ, USA.
- [C46]. Mohammad Ostadijafari\*, and Anamika Dubey "Linear Model-Predictive Controller (LMPC) for Building's Heating Ventilation and Air Conditioning (HVAC) System," IEEE Conference on Control Technology and Applications (CCTA 2019).

- [C47]. G. Krishnamoorthy\*, A. Dubey, and P.K. Sen, "Iteratively-Coupled Co-simulation Framework for Unbalanced Transmission-Distribution System," IEEE PES Powertech June 23-27, 2019, Milano, Italy.
- [C48]. Rahul Ranjan Jha<sup>#</sup> and Anamika Dubey, "Exact Distribution Optimal Power Flow (D-OPF) Model using Convex Iteration Technique," 2019 IEEE PES General Meeting.
- [C49]. Mohammad Ostadijafari\*, Anamika Dubey, Yang Liu, Jie Shi, and Nanpeng Yu, "Smart Building Energy Management using Nonlinear Economic Model Predictive Control," 2019 IEEE PES General Meeting.
- [C50]. Shiva Poudel\*, Anamika Dubey, and Anjan Bose, "Probabilistic Quantification of Power Distribution System Operational Resilience," 2019 IEEE PES General Meeting.
- [C51]. Yaswanth "Nag" Velaga\*, Aoxia (Kevin) Chen, Anamika Dubey and P.K. Sen, "Trends in Rural Electric Cooperatives (Co-ops) in USA: Challenges and Opportunities," 2019 IEEE Rural Electric Power Conference, Bloomington, MN.
- [C52]. Shiva Poudel\*, Monish Mukherjee, and Anamika Dubey, "Optimal Positioning of Mobile Emergency Resources for Resilient Restoration," 2018 IEEE NAPS, Fargo, ND, USA. (Second Best Paper Award)
- [C53]. Yaswanth Nag Velaga\*, Gayathri Krishnamoorthy\*, Anamika Dubey, Aoxia Chen, P.K. Sen, "Transmission-Distribution Co-simulation: Model validation with standalone simulation," 2018 IEEE NAPS, Fargo, ND, USA. (Second Best Paper Award)
- [C54]. Juan Carlos Bedoya, Chen-Ching Liu, and Anamika Dubey, "A Bilateral Transactive Energy Framework for Electric Power Distribution Systems," 2018 IEEE NAPS, Fargo, ND, USA
- [C55]. Monish Mukherjee, Shiva Poudel<sup>#</sup>, Anamika Dubey, and Anjan Bose, "Distributed Generator Sizing for Joint Optimization of Resilience and Voltage Regulation," 2018 IEEE NAPS, Fargo, ND, USA
- [C56]. Zijing Zhang, Qiang Wang, Zhi Chen, and Anamika Dubey, "Optimal Strategies for Scheduling the Hourly Demand Response Considering Distributed Renewable Energy in Day-ahead Market," 2018 IEEE International Conference on Probabilistic Methods Applied to Power Systems (PMAPS), Boise Idaho.
- [C57]. Shiva Poudel<sup>#</sup>, and Anamika Dubey, "A Graph-theoretic Framework for Electric Power Distribution System Service Restoration," July 2018 IEEE PES General Meeting, Portland, WA. (Selected for Best Paper Session)
- [C58]. Gayathri Krishnamoorthy<sup>#</sup>, and Anamika Dubey, "A Framework to Analyze Interactions between Transmission and Distribution Systems," 2018 IEEE PES General Meeting, Portland, WA.
- [C59]. Anamika Dubey and Shiva Poudel\*, "A Robust Approach to Restoring Critical Loads in a Resilient Power Distribution System," 2017 IEEE Power & Energy Society General Meeting, Chicago, IL, USA, 2017, pp. 1-5. doi: 10.1109/PESGM.2017.8274597.
- [C60]. Pisitpol Chirapongsananurak, Anamika Dubey, Suma Jothibasu, Surya Santoso and Arindam Maitra, "Stacked Benefit Applications of Energy Storage Systems in Distribution Circuits," 2017 IEEE Power & Energy Society General Meeting, Chicago, IL, USA, 2017, pp. 1-5.
- [C61]. Suma Jothibasu, Anamika Dubey and Surya Santoso, "Determining PV Hosting Capacity Without Incurring Grid Integration Cost," Proceedings of 2016 North American Power Symposium (NAPS), Sept 18-20, 2016, Denver, CO.
- [C62]. Anamika Dubey, Harsha V. Padullaparti and Surya Santoso, "Analytical Approach to Estimate Distribution Circuit's Energy Storage Accommodation Capacity," Proceedings of the 2016 IEEE PES Conference on Innovative Smart Grid Technologies (ISGT), Sept 6-9, 2016, Minneapolis, MN.
- [C63]. Anamika Dubey and Surya Santoso, "Designing Electric Distribution Circuits for improved System Reliability," Proceedings of 2016 IEEE PES General Meeting, July 17-21, 2016, Boston MA.
- [C64]. Anamika Dubey, Surya Santoso, and Arindam Maitra, "Understanding Photovoltaic Hosting Capacity of Distribution Circuit," Proceedings of 2015 IEEE Power & Energy Society (PES) General Meeting, July 26-30, 2015, Denver, CO.
- [C65]. Anamika Dubey, Surya Santoso, and Aristotle Arapostathis, "Reliability Analysis of Three-Dimensional Shipboard Electrical Power Distribution Systems," Proceedings of 2015 IEEE Electric Ship Technologies Symposium (ESTS), June 21-25, 2015, Old Town Alexandria, Virginia.
- [C66]. Sven Bohn, Michael Agsten, Anamika Dubey, and Surya Santoso, "A Comparative Analysis of PEV Charging Impacts - An International Perspective," Paper 2015-01-0300, SAE 2015 Word Congress & Exhibition, April 21-23, 2015, Detroit, MI.
- [C67]. Anamika Dubey, Hongbo Sun, Daniel Nikovski, Tomihiro Takano, Yasuhiro Kojima, and Tetsufumi Ohno, "Locating Double-line to Ground Faults using Hybrid Current Profile Approach," Proceedings of

- the 2015 IEEE PES Conference on Innovative Smart Grid Technologies (ISGT), Feb. 17-20, 2015, Washington, DC.
- [C68]. Anamika Dubey, Hongbo Sun, Daniel Nikovski, Jinyun Zhang, Fellow, Tomihiro Takano, Yasuhiro Kojima, Member, and Tetsufumi Ohno, "Locating of Multi-phase Faults of Ungrounded Distribution System," Proceedings of the 2014 IEEE International Conference on Power System Technology (POWERCON), Oct. 20 22, 2014, China.
- [C69]. Anamika Dubey, Surya Santoso, and Matthew P. Cloud, "Comparative analysis of effects of electric vehicle loads on distribution system voltages," Proceedings of the 2014 IEEE Power and Energy Transmission and Distribution Conference and Exposition, April 14 17, 2014, Chicago.
- [C70]. Anamika Dubey, Surya Santoso, and Matthew P. Cloud, "A practical approach to evaluate voltage quality effects of electric vehicle charging," Proceedings of the 2013 International Conference on Connected Vehicles and Exposition, Dec 02 06, 2013, Las Vegas.
- [C71]. Anamika Dubey, Surya Santoso, and Matthew P. Cloud, "Understanding the effects of electric vehicle charging on the distribution voltages," Proceedings of the 2013 IEEE Power & Energy Society General Meeting, July 21-25, 2013, Vancouver, Canada.
- [C72]. Hongbo Sun, Anamika Dubey, D Nikovski, T Ohno, T Takano, Y Kojima, "Decoupled three-phase load flow method for unbalanced distribution systems," Proceedings of the 2012 IEEE International Conference on Power System Technology (POWERCON), 2012, Auckland, New Zealand.
- [C73]. Anamika Dubey, Surya Santoso, and Matthew P. Cloud, "Average-Value Model for Plug-In Hybrid Electric Vehicle Battery Charger," Proceedings of the 2012 IEEE Power & Energy Society General Meeting, 22 26 July 2012, San Diego, California.
- [C74]. Anamika Dubey and Abhishek Sharma, "Multimodal Face Recognition using Hybrid Correlation Filters," NCVPRIPG, Jaipur, India, 2010.
- [C75]. Abhishek Sharma and Anamika Dubey, "Facial Expression Recognition using Virtual Neutral Image Synthesis," NCVPRIPG, Jaipur, India, 2010.

### D. Other (Reports/Articles)

- [R1]. M. Kezunovic, A. Annaswamy, K. Baker, S. Brahma, K. Davis, A. Dubey, M. Hedman, J. Mitra, S. Oren, Chee-Wooi Ten, M. Saeedifard, R. Sioshansi, and Le Xie, "Grid at the Edge: Challenges and Opportunities," Final Report, June 2021, Workshop on Research Directions for the Grid Edge.
- [R2]. A. Dubey, A. Bose, M. Liu and L N. Ochoa, "Paving the Way for Advanced Distribution Management Systems Applications: Making the Most of Models and Data," IEEE Power and Energy Magazine, vol. 18, no. 1, pp. 63-75, Jan-Feb 2020.
- [R3]. A. Dubey, and P.K. Sen, "T-60: Framework to Analyze Interactions between Transmission and Distribution (T&D) Systems with High Distributed Energy Resource (DER) Penetrations," Final Project Report, Power Systems Engineering Research Center (PSERC), Aug 2019.

#### E. Thesis

- [T1]. Anamika Dubey, "Distributed Resource Integration Analysis and Network Design of Electric Power Distribution Systems," Ph.D. dissertation, Department of Electrical Engineering and Computer Science, The University of Texas at Austin, Dec. 2015.
- [T2]. Anamika Dubey, "Impacts of Electric Vehicle Loads on Utility Distribution Network Voltages," Master's Thesis, Department of Electrical Engineering and Computer Science, The University of Texas at Austin, Aug. 2012.
- [T3]. Anamika Dubey, "Designing Expert Feeder System for Distribution System Phase Balancing," B.Tech. Thesis, IIT Roorkee, India, May 2010.

### F. Patents

- [P1]. Hongbo Sun and Anamika Dubey, "Locating Multi-Phase Faults in Ungrounded Power Distribution Systems," Patent US 20150226780 A1, 13 Aug. 2015.
- [P2]. Hongbo Sun and Anamika Dubey, "Decoupled Three-Phase Power Flow Analysis Method for Unbalanced Power Distribution Systems," Patent U.S. 20130226482 A1, 29 Aug. 2013.

## PRESENTATIONS AND OUTREACH

### A. Tutorial Sessions

- [1]. Lead Instructor, Tutorial, "Grid-edge Optimization in Active Power Distribution Systems" Instructors: Anamika Dubey, Sumit Paudyal, Sukumar Kamalasadan, Technical committee: Analytic Methods for Power Systems (AMPS), 2023 IEEE PES Grid Edge Conference, April 9, San Diego, CA.
- [2]. Lead Instructor, Tutorial, "Grid-edge Optimization in Active Power Distribution Systems" Instructors: Anamika Dubey, Sumit Paudyal, Sukumar Kamalasadan, Technical committee: Analytic Methods for Power Systems (AMPS), 2023 IEEE PES ISGT Conference, Jan 15, Washington, D.C.
- [3]. Co-instructor, Tutorial, "Optimization in Active Power Distribution Systems: Fundamentals and Applications," Instructors: Sumit Paudyal, Anamika Dubey, Sukumar Kamalasadan, at Universities Power Engineering Conference (UPEC) 2022 in Istanbul, Webinar, Aug 31, 2022.
- [4]. Lead Instructor, Tutorial, "Mathematical Optimization in Active Power Distribution Systems," Instructors: Anamika Dubey, Sumit Paudyal, Sukumar Kamalasadan, Technical committee: Analytic Methods for Power Systems (AMPS), at IEEE PES ISGT NA Conference, April. 2022.
- [5]. Lead Instructor, Tutorial, "Mathematical Optimization in Active Power Distribution Systems," Instructors: Anamika Dubey, Sumit Paudyal, Sukumar Kamalasadan, Technical committee: Analytic Methods for Power Systems (AMPS), at IEEE PES ISGT NA Conference, Feb. 2021.
- [6]. Lead Instructor, Tutorial, "Optimization of DERs for Grid Services in Active Power Distribution Systems," Instructors: Anamika Dubey, Sumit Paudyal, at IEEE SmartGridComm Conference 2021, 24-28 Oct 2021.

#### B. Panel Session Chair/Co-chair

- [1]. Anamika Dubey and Sumit Paudyal, Panel Session, Co-chair, Impact of Extreme Weather on Planning and Operational Practice of Power Distribution Grids, Analytical Methods for Power Systems (AMPS) Distribution System Analysis (DSA) Subcommittee, IEEE PES General Meeting, July 2022.
- [2]. Anamika Dubey, Panel Session, Chair, Distribution-level Optimal Power Flow with Fast DER Control, Analytic Methods for Power Systems (AMPS), Distribution Systems Analysis Subcommittee, IEEE PES General Meeting, July 2021.
- [3]. Anamika Dubey, Panel Session, Chair, Interdisciplinary Education and Training in Smart Grid Paradigm, PEEC University Education Subcommittee, IEEE PES General Meeting, July 2021.
- [4]. Anamika Dubey and Nanpeng Yu, Panel Session, Chair, Distribution Systems Operations in the age of Big Data, Analytical Methods for Power Systems (AMPS) Big Data Analytics Subcommittee, IEEE PES General Meeting, July 2021.
- [5]. Anamika Dubey and Sumit Paudyal, Panel Session, Co-chair, Novel Interdisciplinary Approaches for Power and Energy Research, Power and Energy Education Committee (PEEC Main), IEEE PES General Meeting, Aug 2020.
- [6]. Anamika Dubey and Fei Ding, Panel Session, Co-Chair, The Role of DMS/ADMS in Mitigating Anomalous Distribution Grid Operations, PSOPE Distribution System Operation and Planning Subcommittee, IEEE PES General Meeting, Aug 2020.
- [7]. Anamika Dubey and Nando Ochoa, Panel Session, Chair, Recent Advances in Optimal Power Flow Methods for Realistic Power Distribution Networks, Analytic Methods for Power Systems (AMPS), Distribution Systems Analysis Subcommittee, IEEE PES General Meeting, Aug 2020.
- [8]. Anamika Dubey and Mads Almassalkhi, Panel Session, Chair, Optimization Methods for Unbalanced Power Distribution Systems, Analytic Methods for Power Systems (AMPS), Distribution Systems Analysis Subcommittee, IEEE PES General Meeting, Aug 7, 2019.

### C. Invited Talks

- [1]. Active Power Distribution Systems: System-of-Systems Considerations, Research Trends in EV Technology and Sustainable Microgrids, Nov 5, 2022, NIT Jamshedpur.
- [2]. Grid Resilience: Risk-driven Infrastructure Planning and Automated Restoration, Power Engineering Research and Applications 2022 (PERA22), Oct 20<sup>th</sup>, 2022, Webinar, IIT Kanpur (IEEE PES Student Branch Chapter)
- [3]. Incentivize Residential Demand-side Participation, Energy Systems Innovation Center (ESIC), WSU Pullman, 9/6/2022.
- [4]. Active Power Distribution Systems: System-of-Systems Considerations, Lunch and Learn at Pacific Northwest National Laboratories (PNNL), Webinar, 07/27/2022.

- [5]. Scalable solutions for Distributed Optimization and Control in Active Power Distribution Systems, Panel Session on Distributed Optimization in the Power System: Advancement, Challenges, and Applications, IEEE PES GM, July 2022.
- [6]. Planning for grid resilience to extreme weather events: a risk-driven approach, Panel Session on Impact of Extreme Weather on Planning and Operational Practice of Power Distribution Grids, IEEE PES GM, July 2022.
- [7]. Scalable Solutions for Grid edge Integration for Resilience, The Fifth Autonomous Energy Systems Workshop, National Renewable Energy Laboratories (NREL), NREL Workshop, Golden, CO, Date: 07/13/2022.
- [8]. Writing a Successful Academic Grant Proposal, IEEE PES Young Professionals, Regional Summit USA & Canada, Webinar, 07/09/2022.
- [9]. Active Power Distribution Systems: Changing Systems Operations with Grid-edge Resources, NSF-Sponsored Joint US-European Workshop, May 2022.
- [10]. Distributed Optimization and ADMS Applications, DOE Connected Community, Kickoff meeting, Avista's Scott Morris Center for Energy Innovation, Spokane, WA, May 2022.
- [11]. Active Power Distribution Systems: Resilience, Operational Efficiency, and Flexibility, WSU EECS Executive Council Meeting, April 2022.
- [12]. Distributed Approach for Resilient DER Assisted Restoration, Panel Session on Distributed Controls to Leverage DER in Grid Operations, ISGT NA, April 2022.
- [13]. Task Force on Large-scale Distribution Test Feeder Development with Emerging Operational Paradigms, panel on Large Scale Test Feeders & Emerging Operational Paradigms, IEEE PES T&D Exposition, April 2022.
- [14]. Distribution System Resilience: Modeling and Optimization, panel on Technology Innovation for Humanitarian Needs and Disaster Response, IEEE PES T&D Exposition, April 2022.
- [15]. Incentivize Residential Demand-side Participation, Sloan Webinar, March 04, 2022.
- [16]. Advanced Distribution System Operations and Networked Microgrids to Support Resiliency, Women in Power (WIP) panel at EEE Sustainable Power and Energy Conference (ISPEC), Dec. 22<sup>nd</sup>, 2021.
- [17]. Distributed Coordination of Networked Microgrids for Grid Services, Keynote talk at the International Conference on Emerging Electronics & Automation (E2A) 2021 organized by NIT Silchar, December 19<sup>th</sup>, 2021.
- [18]. Distribution System Resilience: Modeling and Optimization, IEEE IAS Student Chapter NIT Calicut in association with IEEE IA/IE/PELS Jt., Robert B. Moore Lecture Series, November 26<sup>th</sup>, 2021.
- [19]. Distribution System Resilience: Modeling and Optimization, Plenary talk at the Workshop on Communication Networks and Power Systems (WCNPS), November 19<sup>th</sup>, 2021.
- [20]. Research 101," Research Society, IIT Madras, September 26<sup>th</sup>, 2021.
- [21]. Anamika Dubey "Distributed Coordination of Networked Microgrids for Grid Services, Power Engineering Research and Applications 2021 (PERA21), Sept 25<sup>th</sup>, 2021, Webinar, IIT Kanpur (IEEE PES Student Branch Chapter)
- [22]. Distribution System Resilience: Modeling and Optimization, PSERC Webinar. (September 21st, 2021)
- [23]. Distributed Applications Layered Architecture for Resilient Restoration, Virtual Distributed Apps workshop hosted by PNNL, September 8<sup>th</sup>, 2021.
- [24]. Pursuing Higher Education in Engineering, Series of Industry Experts Talk at IIIT Kota, Webinar, 10/08/2021.
- [25]. Research 101, Research Society, IIT Gandhinagar, Aug 21st, 2021.
- [26]. Enabling Operational Resilience in Decentralized Electric Power Distribution Systems, Research and Educational Experiences of NSF CAREER Awardees in Power Systems, PEEC Research Subcommittee, Aug 2021, IEEE PES GM 2021.
- [27]. Network-level Optimization for Managing DERs in Active Distribution Systems, PSOPE Distribution System Operation and Planning Subcommittee, Aug 2021, IEEE PES GM 2021.
- [28]. Anamika Dubey, 'The Alumni Podcast, organized by EECS IIT Roorkee, June 20<sup>th</sup>, 2021.
- [29]. Distributed applications for active power distribution systems, Virtual Distributed Apps Workshops hosted by PNNL, May 27, 2021.
- [30]. Course Introduction: Electric Energy Distribution Systems, EPRI SETO Affiliate University Webinar, hosted by Electric Power Research Institute, May 18, 2021.

- [31]. Operational Decision Making in Active Power Distribution Systems, PES Day Celebration by IEEE Women in Power (WIP), April 29, 2021.
- [32]. AGI Presentation Advanced Distribution System Operations to support Decarbonization and Resiliency, Advanced Grid Institute (AGI) Day, hosted by Pacific Northwest National Lab (PNNL) and Washington State University (WSU), Feb 2021.
- [33]. CITADELS: Co-simulation of Power-Communication-Control, Invited Talk, Washington State University, ESIC seminar, Nov 2020.
- [34]. Network-level Optimization for Unbalanced Power Distribution Systems, Invited Talk Georgia Tech, Atlanta, GA (Oct 2020).
- [35]. Advanced FLISR with Intentional Islanding Operations in an ADMS Environment Using GridAPPS D, IEEE PES GM 2020, Panel Session by PSOPE Committee (August 2020).
- [36]. Network-level Optimization for Unbalanced Power Distribution Systems, Invited Talk Iowa State University, Ames, Iowa (April 2020).
- [37]. Network-level Optimization for Unbalanced Power Distribution Systems, Invited Talk University of Washington, Seattle, WA (Jan 2020).
- [38]. Network-level Optimization for Unbalanced Power Distribution Systems, PSERC Webinar. (September 2019)
- [39]. Operational Challenges for Large Scale Unbalanced Power Distribution Systems, Invited Talk JST-NSF-RCN Joint International Workshop on Distributed Energy Management Systems, Tokyo, Japan. (June 2019)
- [40]. Control and Operation of Large-Scale Power Distribution Systems, Invited Talk NSF/JST/Norway Workshop at Indian Institute of technology, Bombay, India. (Jan 2019)
- [41]. Advances in Electric Power Distribution Systems, Invited Talk at Indian Institute of technology, Roorkee, Roorkee India. (Jan 2019).
- [42]. Economical and Engineering Aspects of Proactive Demand Participation: Centralized versus Bilateral Control Structure, DOE peer-review, Washington DC, (June 2018).
- [43]. Applications to be Developed for GridAPPS-D Platform, Application Developer Fall Workshop, PNNL, Tri-cities, WA, United States of America. (May 2018).
- [44]. Impacts of distributed energy resources on electric power distribution systems Invited talk at Colorado School of Mines, Golden, CO, United States of America (April 2018).
- [45]. Applications to be Developed for GridAPPS-D Platform, Application Developer Fall Workshop, PNNL, Seattle, WA, United States of America. (November 2017).
- [46]. WSU ESIC Seed Grant Presentations, ESIC board meeting, WSU ESIC, Pullman, WA, United States of America. (October 2017).
- [47]. Advances in Electric Power Distribution Systems, Indian Institute of technology, Chennai, Chennai, India. (May 2017).
- [48]. Advances in Electric Power Distribution Systems, University of Idaho, Electrical and Computer Engineering, Moscow, ID, United States of America. (April 2017).
- [49]. Restoring Critical Loads in a Resilient Power Distribution System, AMS Sectional Meeting Program, Pullman, WA, United States of America. (April 2017).
- [50]. Framework to Analyze Interactions between Transmission and Distribution Systems with High DER Penetrations, presented at PSERC IAB meeting, Atlanta, GA, (Dec. 2016).
- [51]. Economical and Engineering Aspects of Proactive Demand Participation: Centralized versus Bilateral Control Structure, presented at DOE Kickoff meeting, Riverside, CA, (Oct 2016).
- [52]. A Modular Framework to Develop Resilient Power Delivery Systems, presented at PSERC Summer Workshop, Albuquerque, NM, (August 2016).
- [53]. Modern Power Distribution Systems: Challenges, Solutions and Future Directions, presented at ESIC IAB meeting, Spokane, WA, (March 2016).
- [54]. PV Hosting Capacity of Distribution System, presented at IEEE MetroCon 2014 Conference, Arlington, TX, (Oct. 2014).
- [55]. GridEd Technology Transfer Workshop for Affiliate Universities, WSU Electric Power Engineering Program at Dallas, TX, April 2018.

[56]. LSAMP Fall Research Banquet, Advances in Electric Power Distribution System, LSAMP, Pullman, WA, United States of America. (September 2017)

### D. Other Professional Development Activities

- [1]. JST-NSF-RCN Workshop Attended Joint International Workshop on Distributed Energy Management Systems, Tokyo, Japan. June 2019
- [2]. NSF Career Proposal Writing Workshop Attended NSF ENG CAREER Proposal Writing Workshop, March 31 April 2, 2020, in Arlington, VA.
- [3]. NSF/JST/RCN/IITB Workshop Attended NSF/JST/RCN/IITB Workshop held at IIT Bombay, India. January 13-15, 2019.
- [4]. DOE Microgrid Program Attended DOE Microgrid Program in-process review meeting, Seattle, WA. December 11-12, 2018.
- [5]. NSF Real Time Data Analytics Workshop Attended NSF Real Time Data Analytics Workshop, Portland, WA. Aug 3-5, 2018.
- [6]. DOE Microgrid Program Attended DOE Microgrid Program in-process review meeting, Charlotte, NC. June 5-6, 2018.
- [7]. GridEd Attended Technology Transfer Workshop for Affiliate Universities as a representative from WSU at Dallas, TX, April 2018.
- [8]. NSF CISE Career Proposal Workshop Attended NSF CISE Career Proposal Workshop, Alexandria, VA, April 2018.
- [9]. DOE Microgrid Program Attended DOE Microgrid Program in-process review meeting, Chattanooga, TN. December 13-14, 2017.
- [10]. NSF Grants Conference Attended Fall 2017 NSF Grants Conference, Phoenix, AZ, Nov. 2017.
- [11]. GridEd Attended Technology Transfer Workshop for Affiliate Universities as a representative from WSU at Dallas, TX, April 2017.
- [12]. UK-US Grid Modernization Collaboration Attended and participated in the workshop organized by National Renewable Energy Laboratory to foster collaboration between US and UK related to efforts on Grid Modernization, Golden, CO, March 2017.
- [13]. EPRI Smart Inverter Short Course Attended short course on smart inverters offered by EPRI, Huntington Beach, CA, Feb. 2017.
- [14]. NWPPA (Northwest Women in Public Power Association) Attended Women in Public Power Conference and successfully completed Northwest Public Power Association Education Course, Portland, WA, Nov. 2016.
- [15]. PNNL Participated in ADMS Functional Requirements workshop. The training was required as a part of ADMS project funded by DOE. Seattle, WA, Sept 2016.
- [16]. GridEd Attended Technology Transfer Workshop for Affiliate Universities as a representative from WSU at Dallas, TX, April 2016.

## PROFESSIONAL SERVICE AND ACTIVITIES

### A. Mentoring Underrepresented Minority (URM) Students

- Member of Pacific Northwest Louis Stokes Alliances for Minority Participation (PNW LSAMP) program, advising a group of 4 undergraduate students.
- Member of Team Mentoring Program (TMP) at Washington State University (WSU).
- Served as a Faculty Advisor, Graduate Society of Women Engineers (GradSWE), 2021-2022.

### **B.** Mentoring High-school Students

- Hosted and mentored two high-school students in my lab for a Summer Research Internship (2022). The internship led to a student-led publication at a premier IEEE PES conference.
- Hosted and mentored two high-school students in my lab for a Summer Research Internship (2021). The internship led to a student-led publication at a premier IEEE PES conference.

#### C. Service to Department Committee

• Serving as a member of EECS Committee for Undergrad Recruiting at Washington State University (WSU), 2021-onwards.

- Serving as a member of EECS Graduate Studies Committee (GSC) at Washington State University (WSU), 2019-onwards.
- Served as a member of CS Faculty Search Committee at Washington State University 2018-19.
- Served as member of EECS Teaching Excellence Committee at Washington State University 2018-19.
- Served as a member of EECS Graduate Studies Committee (GSC) at Washington State University (WSU) 2017-2018.

### D. Leadership at Professional Society

- Associate Editor, IEEE Transactions on Power Systems, Jan 2021 present
- Associate Editor, Power Engineering Letters, Jan 2021 present
- Associate Editor, IEEE Access, Oct 2020-September 2022.
- Chair, IEEE Palouse Section PES Chapter, Jan. 2019 present.
- Secretary, IEEE PES Distribution Systems Analysis Subcommittee, Sept 2020-Dec 2022
- Secretary, IEEE PES University Education Subcommittee, Sept 2020-Dec 2022
- Vice-Chair, IEEE PES Distribution Systems Analysis Subcommittee, Jan 2023-present
- Vice-Chair, IEEE PES University Education Subcommittee, Jan 2023-present
- Area Chair, "Area 10: Power Electronics and Grid Integration" in the 48th IEEE Photovoltaic Specialist Conference (PVSC 48).
- Sub-area Co-chair, Distribution System Operation and Control in the 47th IEEE Photovoltaic Specialist Conference (PVSC 47).
- Conference Organization Committee Member, 2018 IEEE International Conference on Probabilistic Methods Applied to Power Systems (PMAPS).
- Guest Editor, IET Generation Transmission and Distribution special issue entitled "Integrated Planning, Operation, and Control of Transmission and Distribution Systems."
- Guest Editor, IEEE Journal of Photovoltaics, PVSC 2021 Conference papers.

### E. Service to Professional Society

- Steering Committee member, NSF/PSERC Workshop: Grid at the "Edge" and Session Co-moderator for Breakout Session #5: Optimization framework for grid at the edge interfacing, March 23-24, 2021.
- HELICS Technical Review Committee, active now.
- Lead Instructor, Tutorial at IEEE SmartGridComm 2021 on Optimization of DERs for Grid Services in Active Power Distribution Systems, 24-28 Oct 2021.
- Lead Instructor, Tutorial at IEEE ISGT NA 2021 on Mathematical Optimization in Active Power Distribution Systems, 21-24 Feb 2021.
- Lead Instructor, Tutorial at IEEE ISGT NA 2022 on Mathematical Optimization in Active Power Distribution Systems, 24-25 April 2022.
- Lead Instructor, Tutorial at IEEE ISGT NA 2023 on Grid-edge Optimization in Active Power Distribution Systems, 16 Jan 2023.
- Lead Instructor, Tutorial at IEEE PES Grid Edge Conference on Grid-edge Optimization in Active Power Distribution Systems, April 10-13 2023 (upcoming).
- Chaired multiple panel sessions related to Active Power Distribution Systems in IEEE PES General Meeting 2021, 2020, and 2019.
- Chaired paper forum sessions at IEEE PES GM 2019, 2018, 2017, IEEE NAPS 2021.

### F. Professional Society Membership

- Member, American Society for Engineering Education, ASEE, Oct 2016 Present
- Member, IEEE, 2015-present
- Member, IEEE Power and Energy Society (PES), 2015-present
- Member, IEEE Women in Power (WIP), 2015-present
- Member, IEEE Women in Engineering (WIE), 2015-present
- Student Member, IEEE, 2010 2015
- Student Member, IEEE Power and Energy Society (PES), 2010-2015

#### G. Peer Review Service

- Reviewer, IEEE Transactions on Smart Grid, IEEE Transactions on Power Systems, IEEE Transactions on Power Delivery, IET Generation, Transmission & Distribution
- Reviewer, IEEE Power and Engineering Society General Meeting (PES-GM), IEEE PVSC
- National Science Foundation, Peer-review