Curriculum Vitae **Jie Zhang, Ph.D.** **Updated 2024-06-27**

Current Position

Associate Professor
Department of Mechanical Engineering
Department of Electrical and Computer Engineering (Affiliated)
The University of Texas at Dallas
800 West Campbell Rd, ECW-31, Richardson, TX 75080, USA
Email: jiezhang@utdallas.edu
Phone: (+1)972-883-4541
Website: https://personal.utdallas.edu/~jiezhang

Education

Rensselaer Polytechnic Institute (RPI), Troy, NY, USA 2008 - 2012
Ph.D., Mechanical Engineering

Huazhong University of Science & Technology (HUST), Wuhan, China 2006 - 2008
M.S., Mechanical Engineering

Huazhong University of Science & Technology (HUST), Wuhan, China 2002 - 2006
B.S., Mechanical Engineering

Professional Positions

The University of Texas at Dallas (UTD), Richardson, TX, USA
Associate Professor, Department of Mechanical Engineering 2021 - Present
Department of Electrical and Computer Engineering (Affiliated)
Center for Wind Energy (Affiliated)
Assistant Professor, Department of Mechanical Engineering 2015 - 2021

Lawrence Berkeley National Laboratory, Berkeley, CA, USA
Berkeley Lab Affiliate July 2024

VTT Technical Research Centre of Finland, Espoo, Finland
Visiting Professor, Fulbright U.S. Scholar Jan - June 2023

National Renewable Energy Laboratory (NREL), Golden, CO, USA
Research Engineer, Power Systems Engineering Center 2014 - 2015
Postdoctoral Researcher, Power Systems Engineering Center 2012 - 2014

Syracuse University, Syracuse, NY, USA
Visiting Graduate Student 2011 - 2012

Rensselaer Polytechnic Institute (RPI), Troy, NY, USA
Graduate Research Assistant 2008 - 2012

Research Interests

- **Power & Energy Systems:** Renewable energy grid integration, power systems, microgrids, electricity market, distributed energy resources, grid resilience
- **Sustainable Energy:** Wind energy, solar energy, small modular reactor, microreactor
- **Complex Networks:** Multi-layer networks, power network, network resilience
- **Energy Management:** Integrated energy systems, transactive energy, building-to-grid, vehicle-to-grid, energy storage, battery power and thermal management
- **Machine Learning:** Data-driven design, reinforcement learning, graph machine learning
- **Multidisciplinary Design Optimization:** Surrogate modeling, uncertainty quantification, probabilistic design
- **Complex Engineered Systems:** Cyber-physical systems, all-electric ship, energy system modeling, design, and optimization

Selected Honors and Awards

- **Best Paper Award**, IEEE Power & Energy Society General Meeting 2024
- **FRIEND of Research and Innovation**, UTD 2024
- **Invited Participant**, U.S.-Africa Frontiers of Sci., Eng., and Med. Symposium 2024
- **Best Paper Award**, IEEE Power & Energy Society General Meeting 2023
- **FRIEND of Research and Innovation**, UTD 2023
- **Featured Article × 3**, Journal of Renewable and Sustainable Energy 2023
- **Fulbright U.S. Scholar**, Visit VTT Technical Research Center of Finland 2022
- **Top 10 Best Paper Award**, ASME Design Automation Conference 2021
- **Young Investigator Award**, Office of Naval Research 2020
- **Young Investigator Award**, ASME Design Automation Committee 2020
- **Top 10 Best Paper Award**, ASME Design Automation Conference 2020
- **Best Reviewer Award**, IEEE Transactions on Sustainable Energy 2019
- **Best Paper Award**, IEEE Green Technologies Conference (GreenTech) 2018
- **Best Reviewer Award**, Journal of Mechanical Design 2018
- **SAS-IIF Research Award**, International Institute of Forecasters 2017
- **Best Paper Award**, IEEE Power & Energy Society General Meeting 2017
- **Best Paper Award**, Renewable Energy Journal 2015
- **Best Paper Award**, IEEE Power & Energy Society General Meeting 2015
- **Top 6 Best Student Paper Award**, AIAA SDM Conference 2012

Selected Honors and Awards by Students

- **Mary and Richard Templeton Fellowship**, UTD ECS (Sobhan Badakhshan) 2024
- **Excellence in Education Foundation Fellowship**, UTD ECS (Soroush Senemmar) 2023
- **Mary and Richard Templeton Fellowship**, UTD ECS (Sobhan Badakhshan) 2023
- **Ok Kyun Kim and Youngmoo Cho Kim Fellowship**, UTD ECS (Li He) 2022
- **JSM Best Student Paper Award**, American Statistical Asso. (Roshni A. Jacob) 2022
- **ME Department Outstanding Ph.D Student Award**, UTD (Yuanzhi Liu) 2021
- **Betty & Gifford Johnson Travel Award**, UTD ECS (Yuanzhi Liu) 2021
- **Louis Beecherl, Jr. Graduate Fellowship**, UTD ECS (Cong Feng) 2018
- **Best Paper Award**, IEEE Green Technologies Conference (Mucun Sun) 2018
- **SAS-IIF Research Award**, International Institute of Forecasters (Cong Feng) 2017
- **Best Student Paper Award**, ACM/IEEE BDCAT Conference (Cong Feng) 2017
- **Undergraduate Research Scholar Award**, UTD (Siyuan Sun) 2017
- **Best Teaching Assistant Award**, UTD Jonsson School (Chandra Ponnurangam) 2016

Research Grants and Contracts

Grants Awarded at The University of Texas at Dallas (UTD)
Total: ∼$15M As Lead PI: ∼$3.6M Zhang's Share: ∼$3.8M

Federal Grants

31. **Co-PI:** DOE/DOI Ocean Energy Safety Institute (OESI), Project Title: *Remote Smart Monitoring of Offshore Wind Plant Components*, 2024 - 2025. PI: Dr. Mario Rotea. Collaborators: Texas A&M University and NEC Laboratories America, Inc. Total Budget: $499,649 (federal) + $124,912 (cost share) (30% for Zhang).

30. **Co-PI:** National Science Foundation (NSF), Project Title: *Distribution Network Resilience Enhancement with Topological Neural Networks*, 2023 - 2025. PI: Dr. Baris Coskunuzer. Total Budget: $349,906 (50% for Zhang).

29. **PI**: Department of Energy (DOE) Office of Nuclear Energy, Project Title: *Integrated Thermal-Electric Energy Management of All-Electric Ship with Advanced Nuclear Reactors*, 2022 - 2025. Collaborators: Idaho National Laboratory (INL) and American Bureau of Shipping (ABS). Total Budget: $400,000; UTD Budget: $320,000.

28. **PI**: Department of Energy (DOE) Office of Science, Project Title: *Reinforced Hierarchical Probabilistic Solar Forecasting Tool based on Dynamic Multi-model Machine Learning*, 2022-2023. Collaborator: Altitude Grid, LLC. Total Budget: $200,000; UTD Budget: $100,000.

27. **UTD PI**: Department of Energy (DOE) Wind Energy Technologies Office, Project Title: *National Wind Power Data Dash-Board*, 2022-2024. Collaborators: National Renewable En-

ergy Laboratory (Lead) and Pacific Northwest National Laboratory (PNNL). Total Budget: $1,450,000; UTD Budget: $100,000.

26. **Senior Personnel:** National Science Foundation (NSF), Project Title: *REU site: Research Experience for Undergraduates in Wind Energy Systems*, 2022 - 2025. PI: Dr. Stefano Leonardi, Co-PI: Dr. Arif Malik. Total Budget: $391,703 (0% for Zhang).

25. **PI:** Department of Defense (DOD) National Security Innovation Network, Project Title: *UTD-TRITON: Plug and Play Hydrogen Microgrid*, 2022. Budget: $10,000.

24. **UTD PI**: Department of Energy (DOE) - Idaho National Laboratory (INL) LDRD, Project Title: *Nuclear-Renewable-Storage Digital Twin: Enhancing Design, Dispatch, and Cyber Response of Integrated Energy Systems*, 2021-2024. Collaborators: Idaho National Laboratory (Lead). Total Budget: $1,481,000; UTD Budget: $388,000.

23. **Co-PI:** Department of the Interior (DOI) and Department of Energy (DOE), Project Title: *Ocean Energy Safety Institute 2.0 – Offshore Wind Energy (roadmapping, plan/define technology needs)*, 2021 - 2026. Project Lead: Texas A&M University, UTD PI: Dr. Mario Rotea. UTD Budget: $148,000 (25% for Zhang).

22. **PI:** Office of Naval Research (ONR), Project Title: *Learning on Graphs for Resilience Decision-Support in Real-World Networks*, 2021 - 2025. Co-PIs: Dr. Yulia Gel (UTD) and Dr. Souma Chowdhury (University at Buffalo). Total Budget: $808,762; UTD Budget: $538,226 (50% for Zhang).

21. **PI:** U.S. Army Engineer Research and Development Center (ERDC), Project Title: *Machine Learning-based Real-time Optimal Switchings of Reconfigurable Microgrids*, 2021 - 2023. Total Budget: $104,173.

20. **PI:** National Science Foundation (NSF), Project Title: *EAGER: Collaborative Research: Blockchain Graphs as Testbeds of Power Grid Resilience and Functionality Metrics*, 2020 - 2022. Total Budget: $186,729. (substitute PI while Dr. Yulia Gel at NSF)

19. **PI: Office of Naval Research (ONR) Young Investigator Award**, Project Title: *Deep Learning-based Reliability and Resilience Enhancement of Future Navy Ships and Their Integration into Power Networks under Extreme Events*, 2020 - 2023. Total Budget: $509,115.

18. **PI**: Department of Energy (DOE) Office of Nuclear Energy, Project Title: *Multi-Timescale Nuclear-Renewable Hybrid Energy Systems Operations to Improve Electricity System Resilience, Reliability, and Economic Efficiency*, 2019 - 2023. Co-PIs: Dr. Pingfeng Wang (University of Illinois at Urbana–Champaign) and Mark Ruth (NREL). Total Budget: $777,482; UTD Budget: $340,000.

17. **PI:** National Science Foundation (NSF), Project Title: *EAGER: Collaborative Research: Local Topological Properties of Power Flow Networks, and Their Role in Power System Functionality*, 2018 - 2022. Total Budget: $154,105. (substitute PI while Dr. Yulia Gel at NSF)

16. **UTD PI**: Department of Energy (DOE) Advanced Research Projects Agency - Energy (ARPA-E), Project Title: *A Hybrid Approach To SCOPF Using Cross-Entropy*, 2018 - 2020. Collaborator: Lawrence Berkeley National Laboratory (Lead). Total Budget: $250,000; UTD Budget: $75,000.

15. **UTD PI**: Department of Energy (DOE) Solar Energy Technologies Office, Project Title: *Coordinated Ramping Product and Regulation Reserve Procurements in California Independent System Operator and Midcontinent Independent System Operator Using Multi-Scale Probabilistic Solar Power Forecasts*, 2018 - 2021. Collaborators: Johns Hopkins University (Lead), NREL, IBM, California ISO (CAISO), Midcontinent ISO (MISO). Total Budget: $1,738,630 (federal) + $434,658 (cost share); UTD Budget: $180,000 (federal) + $59,085 (cost share).

14. **UTD PI**: Department of Energy (DOE) Solar Energy Technologies Office, Project Title: *Solar Uncertainty Management and Mitigation for Exceptional Reliability in Grid Operations*, 2018 - 2021. Collaborators: NREL (Lead), Electric Reliability Council of Texas (ERCOT), MDA. Total Budget: $1,698,608 (federal) + $331,930 (cost share); UTD Budget: $135,000 (federal) + $21,930 (cost share).

13. **UTD PI**: Department of Energy (DOE) Grid Modernization Initiative, Project Title: *WindView: An Open Platform for Wind Energy Forecast Visualization*, 2016 - 2019. Collaborators: NREL (Lead), Western Area Power Administration Electric Power Training Center, Argonne National Laboratory, ERCOT, NYISO. Total Budget: $1,500,000; UTD Budget: $174,000.

12. **UTD PI**: Department of Energy (DOE) Grid Modernization Initiative, Project Title: *Providing Ramping Service with Wind to Enhance Power System Operational Flexibility*, 2016 - 2019. Collaborators: NREL (Lead), Electric Power Research Institute (EPRI), MISO, ERCOT. Total Budget: $1,500,000; UTD Budget: $289,000.

11. **PI**: National Renewable Energy Laboratory (NREL)/DOE SunShot Initiative, Project Title: *Watt-Sun: A Multi-Scale, Multi-Model, Machine-Learning Solar Forecasting Technology*, 2016. UTD Budget: $30,000.

Industry Grants

10. **PI**: WindSTAR (NSF IUCRC), Project Title: *Advancing Condition Monitoring and Predictive Maintenance for Turbine Electrical Components: A Digital Twin Framework Approach*, 2024-2025. Budget: $53,934.

9. **PI**: WindSTAR (NSF IUCRC), Project Title: *Techno-Economic Analysis and Dynamic Modeling of An Integrated Wind, Hydrogen, and Nitric Acid System*, 2024-2025. Co-PI: Dr. Juan Pablo Trelles (UMass Lowell). Total Budget: $65,120; UTD Budget: $33,458.

8. **PI**: WindSTAR (NSF IUCRC), Project Title: *Machine Learning-enabled Condition Monitoring of Wind Turbines Using High-Resolution Voltage and Current Signals*, 2023-2024. Budget: $51,594.

7. **PI**: WindSTAR (NSF IUCRC), Project Title: *Co-located Wind Farm and Hydrogen Plant Energy System Study*, 2021-2022. Budget: $42,805.

6. **PI**: Oncor Electric Delivery, Project Title: *Data-Driven Hierarchical Load Forecasting with Distributed Energy Resources*, 2019. Budget: $61,742.

5. **PI**: NVIDIA, Project Title: *Titan V GPU Gift for Deep Learning Research*, NVIDIA GPU Grant Program, 2019, Gift Value: $5,000.

4. **PI**: Oncor Electric Delivery, Project Title: *Data-Driven Hierarchical Load Forecasting*, 2018. Budget: $57,065.

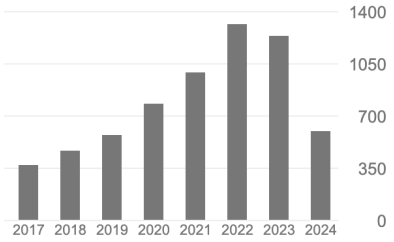
3. **PI**: SAS-International Institute of Forecasters (SAS-IIF) Grant, Project Title: *Hierarchy-based Disaggregate Forecasting Using Deep Machine Learning in Power System Time Series*, 2017-2018. Budget: $5,000.

2. **PI**: Oncor Electric Delivery, Project Title: *Outage and Load Forecasting for Oncor*, 2017-2018. Budget: $51,160.

Grants Awarded at National Renewable Energy Laboratory (NREL)

1. **NREL Technical Team Leader**: Department of Energy (DOE) SunShot Initiative, titled: *Watt-Sun: A Multi-Scale, Multi-Model, Machine-Learning Solar Forecasting Technology*, PI: Dr. Hendrik Hamann, 2013 - 2016. Collaborators: IBM Thomas J. Watson Research Center, Argonne National Laboratory, Northeastern University, University of Arizona, Northrop Grumman, ISO New England, Tucson Electric Power.

	All	Since 2019
Citations	7326	5515
h-index	47	43
i10-index	125	103



PUBLICATIONS

Citation Indices (by Google Scholar, as of 2024-06-27)

JOURNAL PUBLICATIONS

Journal Articles (*student and †postdoc I advised, ‡corresponding author)

105. *Jacob, R. A., Paul, S., Chowdhury, S., Gel, Y. R. and ‡**Zhang, J.**, "Real-Time Outage Management in Active Distribution Networks Using Reinforcement Learning over Graphs," *Nature Communications*, Vol. 15, 2024, pp. 4766.

104. *Senemmar, S., *Jacob, R. A. and ‡**Zhang, J.**, "Non-Intrusive Fault Detection in Shipboard Power Systems using Wavelet Graph Neural Networks," *Measurement: Energy*, Vol. 3, 2024, pp. 100009.

103. *Rahman, J. and ‡**Zhang, J.**, "Steady-state Modeling of Small Modular Reactors for Multi-timescale Power System Operations with Temporally Coupled Sub-models," *IEEE Transactions on Power Systems*, 2024. (in press)

102. *Badakhshan, S., *Rahman, J. and ‡**Zhang, J.**, "Black Start of Coastline Power Networks From Grid-forming Ship-to-Grid Services," *IEEE Transactions on Smart Grid*, Vol. 15, Issue 2, 2024, pp. 1670-1679.

101. Wang, X., Yu, Y, Li, S., **Zhang, J.** and Liu, Z., "Point-to-Point-Based Optimization Method of Ballast Water Allocation for Revolving Floating Cranes with Experimental Verification," *Journal of Marine Science and Engineering*, Vol. 12, Issue 3, 2024, pp. 437.

100. Wang, X., Li, S., Yu, Y, **Zhang, J.** and Liu, Z., "Collaborative Matching Design Method of Lifting Trajectory and Ballast Water Allocation for Revolving Floating Cranes with Experimental Validation," *Ocean Engineering*, Vol. 296, 2024, pp. 117033.

99. Chen, Y., *Jacob, R. A., Gel, Y. R., **Zhang, J.** and Poor, H. V., "Learning Power Grid Outages with Higher-Order Topological Neural Networks," *IEEE Transactions on Power Systems*, Vol. 39, Issue 1, 2024, pp. 720-732. (**JSM Best Student Paper Award**)

98. *Li, H. and ‡**Zhang, J.**, "Towards Sustainable Integration: Techno-Economic Analysis and Future Perspectives of Co-located Wind and Hydrogen Energy Systems," *Journal of Mechanical Design*, Vol. 146, Issue 2, 2024, pp. 020903 (15 pages).

97. Hua, Z., Zhou, B., Or, S.W., **Zhang, J.**, Li, C. and Wei, J., "Robust Emergency Preparedness Planning for Resilience Enhancement of Energy-Transportation Nexus against Extreme Rainfalls," *IEEE Transactions on Industry Applications*, Vol. 60, Issue 1, 2024, 1196-1207.

96. Poudel, B., Gautam, M., Li, B., Huang, J. and **Zhang, J.**, "Design, Modeling and Simulation of Nuclear-Powered Integrated Energy Systems With Cascaded Heating Applications," *Journal of Renewable and Sustainable Energy*, Vol. 15, Issue 5, 2023, 054103. (**Featured Article and Scilight**)

95. *Jacob, R. A. and ‡**Zhang, J.**, "Modeling and Control of Nuclear-Renewable Integrated Energy Systems: Dynamic System Model for Green Electricity and Hydrogen Production," *Journal of Renewable and Sustainable Energy*, Vol. 15, Issue 4, 2023, 046302. (**Featured Article and Scilight**)

94. Zhang, Junqiang, Chowdhury, S., **Zhang, J.**, Tong, W. and Messac, A., "Optimal Selection of Time Windows for Preventive Maintenance of Offshore Wind Farms Subject to Wake Losses," *Wind Energy*, Vol. 26, Issue 11, 2023, pp. 1103–1122.

93. *He, L. and ‡**Zhang, J.**, "Energy Trading in Local Electricity Markets with Behind-The-Meter Solar and Energy Storage," *IEEE Transactions on Energy Markets, Policy and Regulation*, Vol. 1, Issue 2, 2023, pp. 107-117.

92. *Rahman, J. and ‡**Zhang, J.**, "Multi-timescale Operations of Nuclear-Renewable Hybrid Energy Systems for Reserve and Thermal Products Provision," *Journal of Renewable and Sustainable Energy*, Vol. 15, Issue 2, 2023, 025901. (**Featured Article and Scilight**)

91. Wu, J., Chen, X., *Badakhshan, S., **Zhang, J.** and Wang, P., "Spectral Graph Clustering for Intentional Islanding Operations in Resilient Hybrid Energy Systems," *IEEE Transactions on Industrial Informatics*, Vol. 19, Issue 4, 2023, pp. 5956-5964.

90. Hobbs, B., Krishnan, V., **Zhang, J.**, Hamann, H., Siebenschuh, C., Zhang, R., †Li, B., *He, L., Edwards, P., Sky, H., Krad, I., Spyrou, E., Fang, X., Wang, Y. and Zhang, S., "How Can Probabilistic Solar Power Forecasts Be Used to Lower Costs and Improve Reliability in Power Spot Markets? A Review and Application to Flexiramp Requirements," *IEEE Open Access Journal of Power and Energy*, Vol. 9, 2022, pp. 437-450.

89. Hobbs, B., **Zhang, J.**, Hamann, H., Siebenschuh, C., Zhang, R., †Li, B., Krad, I., Krishnan, V., Spyrou, E., Wang, Y., Xu, Q. and Zhang, S., "Using Probabilistic Solar Power Forecasts to Inform Flexible Ramp Product Procurement for the California ISO," *Solar Energy Advances*, Vol. 2, 2022, pp. 100024.

88. †Li, B., Feng, C., Siebenschuh, C., Zhang, R., Spyrou, E., Krishnan, Hobbs, B. and ‡**Zhang, J.**, "Sizing Ramping Reserve Using Probabilistic Solar Forecasts: A Data-Driven Method," *Applied Energy*, Vol. 313, 2022, pp. 118812.

87. *He, L., *Liu, Y. and ‡**Zhang, J.**, "An Occupancy-Informed Customized Price Design for Consumers: A Stackelberg Game Approach," *IEEE Transactions on Smart Grid*, Vol. 13, Issue 3, 2022, pp. 1988-1999.

86. *Feng, C., **Zhang, J.**, Zhang, W. and Hodge, B.-M., "Convolutional Neural Networks for Intra-hour Solar Forecasting Based on Sky Image Sequences," *Applied Energy*, Vol. 310, 2022, pp. 118438.

85. Seifossadat, S.A., Rastegar, M., Mohammadi, M., *Senemmar, S. and **Zhang, J.**, Hierarchical Microenergy Hub Sizing and Placement in Integrated Electricity and Natural Gas Distribution Systems," *IEEE Systems Journal*, Vol. 16, Issue 4, 2022, pp. 5380-5391.

84. *Sun, M., *He, L. and ‡**Zhang, J.**, "Deep Learning-based Probabilistic Anomaly Detection for Solar Farms under Cyberattacks," *International Journal of Electrical Power and Energy Systems*, Vol. 137, 2022, pp. 107752.

83. *Liu, Y. and ‡**Zhang, J.**, "A Repeated Commuting Driving Cycle Dataset with Application to Short-term Vehicle Velocity Forecasting," *Journal of Autonomous Vehicles and Systems*, Vol. 1, Issue 3, 2021, pp. 031002 (12 pages).

82. *He, L., *Liu, Y. and ‡**Zhang, J.**, "Peer-to-Peer Energy Sharing with Battery Storage: Energy Pawn in The Smart Grid," *Applied Energy*, Vol. 297, 2021, pp. 117129.

81. *Feng, C., *Liu, Y. and ‡**Zhang, J.**, "A Taxonomical Review on Recent Artificial Intelligence Applications to PV Integration into Power Grids," *International Journal of Electrical Power and Energy Systems*, Vol 132, 2021, pp. 107176.

80. *Rahman, J., *Feng, C. and ‡**Zhang, J.**, "A Learning-Augmented Approach for AC Optimal Power Flow," *International Journal of Electrical Power and Energy Systems*, Vol. 130, 2021, pp. 106908.

79. Dabbaghjamanesh, M., Wang, B., Kavousi-Fard, A., Hatziargyriou, N. and **Zhang, J.**, "Blockchain-based Stochastic Energy Management of Interconnected Microgrids Considering Incentive Price," *IEEE Transactions on Control of Network Systems*, Vol. 8, Issue 3, 2021, pp. 1201-1211.

78. †Li, B., Ofori-Boateng, D., Gel, Y. R. and ‡**Zhang, J.**, "A Hybrid Approach for Transmission Grid Resilience Assessment Using Reliability Metrics and Power System Local Network Topology," *Sustainable and Resilient Infrastructure*, Vol. 6, Issue 1-2, 2021, pp. 26-41.

77. *He, L. and ‡**Zhang, J.**, "A Community Sharing Market with PV and Energy Storage: An Adaptive Bidding-based Double-side Auction Mechanism," *IEEE Transactions on Smart Grid*, Vol. 12, Issue 3, 2021, pp. 2450-2461.

76. Dabbaghjamanesh, M., Moeini, A., Hatziargyriou, N. and ‡**Zhang, J.**, "Deep Learning-based Real-time Switching of Hybrid AC/DC Transmission Networks," *IEEE Transactions on Smart Grid*, Vol. 12, Issue 3, 2021, pp. 2331-2342.

75. *Liu, Y. and ‡**Zhang, J.**, "Electric Vehicle Battery Thermal and Cabin Climate Management Based on Model Predictive Control," *Journal of Mechanical Design*, Vol. 144, Issue 3, 2021, pp. 031705 (8 pages).

74. *Jia, Y., Ying, L., Wang. D. and ‡**Zhang, J.**, "Defect Prediction of Relay Protection Systems based on LSSVM-BNDT," *IEEE Transactions on Industrial Informatics*, Vol. 17, Issue 1, 2021, pp. 710-719.

73. Dabbaghjamanesh, M., *Senemmar, S. and ‡**Zhang, J.**, "Resilient Distribution Networks Considering Mobile Marine Microgrids: A Synergistic Network Approach," *IEEE Transactions on Industrial Informatics*, Vol. 17, Issue 8, 2021, pp. 5742-5750.

72. Dabbaghjamanesh, M., Kavousi-Fard, A. and **Zhang, J.**, "'Stochastic Modeling and Integration of Plug-In Hybrid Electric Vehicles in Reconfigurable Microgrids With Deep Learning-Based Forecasting," *IEEE Transactions on Intelligent Transportation Systems*, Vol. 22, Issue 7, 2021, pp. 4394-4403.

71. Li, W., Srinivasan, D., Zhang, J. and Yang, D.,"Preface of Progress in Solar Energy Special Issue: Grid integration," *Solar Energy*, Vol. 210, 2020, pp. 1-2.

70. †Li, B. and ‡**Zhang, J.**, "A Review on the Integration of Probabilistic Solar Forecasting in Power Systems," *Solar Energy*, Vol. 210, 2020, pp. 68-86. (**Invited Paper**)

69. †Li, B., Sedzro, K., Fang, X., Hodge, B.-M. and ‡**Zhang, J.**, "A Clustering-Based Scenario Generation Framework for Power Market Simulation with Wind Integration," *Journal of Renewable and Sustainable Energy*, Vol. 12, 2020, pp. 036301.

68. Yang, D., **Zhang, J.**, et al., "Verification of Deterministic Solar Forecasts," *Solar Energy*, Vol. 210, 2020, pp. 20-37.

67. *Feng, C. and ‡**Zhang, J.**, "SolarNet: A Sky Image-based Deep Convolutional Neural Network for Intra-hour Solar Forecasting," *Solar Energy*, Vol. 204, 2020, pp. 71-78.

66. *Feng, C., Mehmani, A. and ‡**Zhang, J.**, "Deep Learning-based Real-time Building Occupancy Detection Using AMI Data," *IEEE Transactions on Smart Grid*, Vol. 11, Issue 5, 2020, pp. 4490-4501.

65. *Sun, M., *Feng, C. and ‡**Zhang, J.**, "Probabilistic Solar Power Forecasting Based on Weather Scenario Generation," *Applied Energy*, Vol. 266, 2020, pp. 114823.

64. *Feng, C. and ‡**Zhang, J.**, "Assessment of Aggregation Strategies for Machine-Learning based Short-Term Load Forecasting," *Electric Power Systems Research*, Vol. 184, 2020, pp. 106304.

63. *Liu, Y. and ‡**Zhang, J.**, "Self-adapting J-type Air-based Battery Thermal Management System via Model Predictive Control," *Applied Energy*, Vol. 263, 2020, pp. 114640.

62. Dabbaghjamanesh, M., Mehraeen, S., Kavousi-Fard, A., **Zhang, J.** and Dong, Z., "Sensitivity Analysis of Renewable Energy Integration on Stochastic Energy Management of Automated Reconfigurable Hybrid AC-DC Microgrid Considering DLR Security Constraint," *IEEE Transactions on Industrial Informatics*, Vol. 16, Issue 1, 2020, pp. 120-131.

61. *Sun, M., *Feng, C. and ‡**Zhang, J.**, "Multi-Distribution Ensemble Probabilistic Wind Power Forecasting," *Renewable Energy*, Vol. 148, 2020, pp. 135-149.

60. Lv, L., Shi, M., Song, X., Sun, W. and **Zhang, J.**, "'A Fast-Converging Ensemble Infilling Approach Balancing Global Exploration and Local Exploitation: The Go-Inspired Hybrid Infilling Strategy," *Journal of Mechanical Design*, Vol. 142, Issue 2, 2020, pp. 021403.

59. *Feng, C., *Sun, M. and ‡**Zhang, J.**, "Reinforced Deterministic and Probabilistic Load Forecasting via Q-Learning Dynamic Model Selection," *IEEE Transactions on Smart Grid*, Vol. 11, Issue 2, 2020, pp. 1377-1386.

58. *Sun, M., *Feng, C. and ‡**Zhang, J.**, "Aggregated Conditional Probabilistic Wind Power Forecasting Based on Spatio-temporal Correlation," *Applied Energy*, Vol. 256, 2019, pp. 113842.

57. *Feng, C., Yang, D., Hodge, B.-M. and ‡**Zhang, J.**, "OpenSolar: Promoting the Openness and Accessibility of Diverse Public Solar Datasets," *Solar Energy*, Vol. 188, 2019, pp. 1369-1379.

56. *Liu, Y. and ‡**Zhang, J.**, "Design A J-type Air-based Battery Thermal Management System through Surrogate-based Optimization," *Applied Energy*, Vol. 252, 2019, pp. 113426.

55. Song, X., Lv, L., Sun, W. and **Zhang, J.**, "A Radial Basis Function-based Multi-fidelity Surrogate Model: Exploring Correlation Between High-Fidelity and Low-Fidelity Models," *Structural and Multidisciplinary Optimization*, Vol. 60, Issue 3, 2019, pp. 965-981.

54. *Sun, M., *Feng, C., Chartan, E., Hodge, B.-M. and ‡**Zhang, J.**, "A Two-Step Short-Term Probabilistic Wind Forecasting Methodology Based on Predictive Distribution Optimization," *Applied Energy*, Vol. 238, 2019, pp. 1497-1505.

53. †Li, M., *Liu, Y., *Wang, X. and ‡**Zhang, J.**, "Modeling and Optimization of An Enhanced Battery Thermal Management System in Electric Vehicles," *Frontiers of Mechanical Engineering*, Vol. 14, Issue 1, 2019, pp. 65-75.

52. *Feng, C., *Sun, M., †Cui, M., Chartan, E., Hodge, B.-M. and ‡**Zhang, J.**, "Characterizing Forecastability of Wind Sites in the United States," *Renewable Energy*, Vol. 133, 2019, pp. 1352-1365.

51. †Cui, M., Krishnan, V., Hodge, B.-M. and ‡**Zhang, J.**, "A Copula-Based Conditional Probabilistic Forecast Model for Wind Power Ramps," *IEEE Transactions on Smart Grid*, Vol. 10, Issue 4, 2019, pp. 3870-3882.

50. †Cui, M., ‡**Zhang, J.**, Wang, Q., Krishnan, V. and Hodge, B.-M., "A Data-Driven Methodology for Probabilistic Wind Power Ramp Forecasting," *IEEE Transactions on Smart Grid*, Vol. 10, Issue 2, 2019, pp. 1326-1338.

49. *Feng, C., †Cui, M., Hodge, B.-M., Lu, S., Hamann, H. F. and ‡**Zhang, J.**, "Unsupervised Clustering-based Short-Term Solar Forecasting," *IEEE Transactions on Sustainable Energy*, Vol. 10, Issue 4, 2019, pp. 2174-2185.

48. Albaker, A., Majzoobi, A., *Zhao, G., **Zhang, J.** and Khodaei, A., "Privacy-Preserving Optimal Scheduling of Integrated Microgrids," *Electric Power Systems Research*, Vol. 163, 2018, pp. 164-173.

47. *Wang, X., *Liu, Y., Sun, W., Song, X. and ‡**Zhang, J.**, "Multidisciplinary and Multifidelity Design Optimization of Electric Vehicle Battery Thermal Management System," *Journal of Mechanical Design*, Vol. 140, Issue 9, 2018, pp. 094501 (8 pages).

46. †Cui, M. and ‡**Zhang, J.**, "Estimating Ramping Requirements With Solar-Friendly Flexible Ramping Product in Multi-Timescale Power System Operations," *Applied Energy*, Vol. 225, 2018, pp. 27-41.

45. Song, X., Lv, L., Li, J., Sun, W. and **Zhang, J.**, "An Advanced and Robust Ensemble Surrogate Model: Extended Adaptive Hybrid Functions," *Journal of Mechanical Design*, Vol. 140, Issue 4, 2018, pp. 041402 (9 pages).

44. †Cui, M., ‡**Zhang, J.**, Hodge, B.-M., Lu, S. and Hamann, H. F., "A Methodology of Quantifying Reliability Benefits from Improved Solar Power Forecasting in Multi-Timescale Power System Operations," *IEEE Transactions on Smart Grid*, Vol. 9, Issue 6, 2018, pp. 6897-6908.

43. †Cui, M., *Feng C., *Wang, Z. and ‡**Zhang, J.**, "Statistical Representation of Wind Power Ramps Using a Generalized Gaussian Mixture Model," *IEEE Transactions on Sustainable Energy*, Vol. 9, Issue 1, 2018, pp. 261-272.

42. *Wang, X., †Li. M., *Liu, Y., Sun, W., Song, X. and ‡**Zhang, J.**, "Surrogate based Multidisciplinary Design Optimization of Lithium-ion Battery Thermal Management System in Electric Vehicles," *Structural and Multidisciplinary Optimization*, Vol. 56, Issue 6, 2017, pp. 1555-1570.

41. †Cui, M., ‡**Zhang, J.**, *Feng, C., Florita, A., Sun, Y. and Hodge, B.-M., "Characterizing and Analyzing Ramping Events in Wind Power, Solar Power, Load, and Netload," *Renewable Energy*, Vol. 111, 2017, pp. 227-244.

40. Ashuri, T. and **Zhang, J.**, "CompSim: Cross Sectional Modeling of Geometrical Complex and Inhomogeneous Slender Structures," *SoftwareX*, Vol. 6, 2017, pp. 155-160.

39. ‡**Zhang, J.**, *Cui, M., Hodge, B.-M., Florita, A. and Freedman, J., "Ramp Forecasting Performance from Improved Short-Term Wind Power Forecasting Over Multiple Spatial and Temporal Scales," *Energy*, Vol. 122, 2017, pp. 528-541.

38. *Feng, C., †Cui, M., Hodge, B.-M. and ‡**Zhang, J.**, "A Data-Driven Multi-Model Methodology with Deep Feature Selection for Short-Term Wind Forecasting," *Applied Energy*, Vol. 190, 2017, pp. 1245-1257.

37. †Cui, M., ‡**Zhang, J.**, Wu, H. and Hodge, B.-M., "Wind-Friendly Flexible Ramping Product Design in Multi-Timescale Power System Operations," *IEEE Transactions on Sustainable Energy*, Vol. 8, Issue 3, 2017, pp. 1064-1075.

36. Wu, H., Krad, I., Florita, A., Hodge, B.-M., Ibanez, E., **Zhang, J.** and Ela, E., "Stochastic Multi-timescale Power System Operations with Variable Wind Generation," *IEEE Transactions on Power Systems*, Vol. 32, Issue 5, 2017, pp. 3325-3337.

35. ‡**Zhang, J.**, Jain, R. and Hodge, B.-M., "A Data-Driven Method to Characterize Turbulence-Caused Uncertainty in Wind Power Generation," *Energy*, Vol. 112, 2016, pp. 1139-1152.

34. Ashuri, T., Zaaijer, M., Martins, J. and **Zhang, J.**, "Multidisciplinary Design Optimization of Large Wind Turbines – Technical, Economic, and Design Challenges," *Energy Conversion and Management*, Vol. 123, 2016, pp. 56-70.

33. Sun, W., *Wang, X., Wang, L., **Zhang, J.** and Song, X., "Multidisciplinary Design Optimization of Tunnel Boring Machine Considering Both Structure and Control Parameters under Complex Geological Conditions," *Structural and Multidisciplinary Optimization*, Vol. 54, Issue 4, 2016, pp. 1073-1092.

32. Chowdhury, S., Mehmani, A., **Zhang, J.** and Messac, A., "Market Suitability and Performance Tradeoffs Offered by Commercial Wind Turbines across Differing Wind Regimes," *Energies*, Vol. 9, Issue 5, 2016, pp. 352.

31. Gomez-Lazaro, E., Bueso, M. C., Kessler, M., Martin-Martinez, S., **Zhang, J.**, Hodge, B.-M. and Molina-Garcia, A., "Probability Density Function Characterization for Aggregated Large-Scale Wind Power based on Weibull Mixtures," *Energies*, Vol. 9, Issue 2, 2016, pp. 91.

30. *Cui, M., **Zhang, J.**, Florita, A., Hodge, B.-M., Ke, D. and Sun, Y., "An Optimized Swinging Door Algorithm for Identifying Wind Ramping Events," *IEEE Transactions on Sustainable Energy*, Vol. 7, Issue 1, 2016, pp. 150-162.

29. ‡**Zhang, J.**, Hodge, B.-M., Lu, S., Hamann, H. F., Lehman, B., Simmons, J., Campos, E., Banunarayanan, V., Black, J. and Tedesco, J., "Baseline and Target Values for Regional and Point PV Power Forecasts: Toward Improved Solar Forecasting," *Solar Energy*, Vol. 122, 2015, pp. 804-819.

28. **Zhang, J.**, Draxl, C., Hopson, T., Delle Monache, L., Vanvyve, E. and Hodge, B.-M., "Comparison of Numerical Weather Prediction Based Deterministic and Probabilistic Wind Resource Assessment Methods," *Applied Energy*, Vol. 156, 2015, pp. 528-541.

27. **Zhang, J.**, Florita, A., Hodge, B.-M., Lu, S., Hamann, H. F., Banunarayanan, V. and Brockway, A., "A Suite of Metrics for Assessing the Performance of Solar Power Forecasting," *Solar Energy*, Vol. 111, 2015, pp. 157-175.

26. *Cui, M., Ke, D., Sun, Y., Gan, D., **Zhang, J.** and Hodge, B.-M., "Wind Power Ramp Event Forecasting Using a Stochastic Scenario Generation Method," *IEEE Transactions on Sustainable Energy*, Vol. 6, Issue 2, 2015, pp. 422-433.

25. Tong, W., Chowdhury, S., Mehmani, A., Messac, A. and **Zhang, J.**, "Sensitivity of Wind Farm Output to Wind Conditions, Land Configuration, and Installed Capacity, under Different Wake Models," *Journal of Mechanical Design*, Vol. 137, Issue 6, 2015, pp. 061403.

24. **Zhang, J.**, Hodge, B.-M. and Florita, A., "Joint Probability Distribution and Correlation Analysis of Wind and Solar Power Forecast Errors in the Western Interconnection," *Journal of Energy Engineering (Special Issue on Smart Grid and Emerging Technology Integration)*, Vol. 141, Issue 1, 2015, pp. B4014008.

23. ‡**Zhang, J.**, Chowdhury, S., Messac, A. and Hodge, B.-M., "A Hybrid Measure-Correlate-Predict Method for Long-Term Wind Condition Assessment," *Energy Conversion and Management*, Vol. 87, 2014, pp. 697-710.

22. ‡**Zhang, J.**, Chowdhury, S. and Messac, A., "A Comprehensive Measure of the Energy Resource: Wind Power Potential (WPP)," *Energy Conversion and Management*, Vol. 86, 2014, pp. 388-398.

21. **Zhang, J.**, Chowdhury, S., Mehmani, A. and Messac, A., "Characterizing Uncertainty Attributable to Surrogate Models," *Journal of Mechanical Design*, Vol. 136, Issue 3, 2014, pp. 031004.

20. Chowdhury, S., **Zhang, J.**, Tong, W. and Messac, A., "Modeling the Influence of Land-Shape on the Energy Production Potential of a Wind Farm Site," *Journal of Energy Resources Technology*, Vol. 136, Issue 1, 2014, pp. 011203.

19. Song, X., **Zhang, J.**, Kang, S., Ma, M., Li, B., Cao, W. and Pickert, V., "Surrogate-Based Analysis and Optimization for the Design of Heat Sinks With Jet Impingement," *IEEE Transactions on Components, Packaging and Manufacturing Technology*, Vol. 4, Issue 3, 2014, pp. 429-437.

18. Zhang, Junqiang, Messac, A., **Zhang, J.** and Chowdhury, S., "Adaptive Optimal Design of Active Thermoelectric Windows Using Surrogate Modeling," *Optimization and Engineering*, Vol. 15, Issue 2, 2014, pp. 469-483.

17. Chowdhury, S., Tong, W., Messac, A. and **Zhang, J.**, "A Mixed-Discrete Particle Swarm Optimization Algorithm with Explicit Diversity-Preservation," *Structural and Multidisciplinary Optimization*, Vol. 47, Issue 3, 2013, pp. 367-388.

16. **Zhang, J.**, Chowdhury, S., Zhang, Junqiang, Messac, A. and Castillo, L., "Adaptive Hybrid Surrogate Modeling for Complex Systems," *AIAA Journal*, Vol. 51, Issue 3, 2013, pp. 643-656.

15. Chowdhury, S., **Zhang, J.**, Messac, A. and Castillo, L., "Optimizing the Arrangement and the Selection of Turbines for Wind Farms Subject to Varying Wind Conditions," *Renewable Energy*, Vol. 52, 2013, pp. 273-282.

14. **Zhang, J.**, Chowdhury, S., Messac, A. and Castillo, L., "A Multivariate and Multimodal Wind Distribution Model," *Renewable Energy*, Vol. 51, 2013, pp. 436-447.

13. **Zhang, J.**, Chowdhury, S. and Messac, A., "An Adaptive Hybrid Surrogate Model," *Structural and Multidisciplinary Optimization*, Vol. 46, Issue 2, 2012, pp. 223-238.

12. **Zhang, J.**, Chowdhury, S., Messac, A. and Castillo, L., "A Response Surface-Based Cost Model for Wind Farm Design," *Energy Policy*, Vol. 42, 2012, pp. 538-550.

11. Chowdhury, S., **Zhang, J.**, Messac, A. and Castillo, L., "Unrestricted Wind Farm Layout Optimization (UWFLO): Investigating Key Factors Influencing the Maximum Power Generation," *Renewable Energy*, Vol. 38, Issue 1, 2012, pp. 16-30. (**Best Paper Award**)

10. Messac, A., Chowdhury, S. and **Zhang, J.**, "Characterizing and Mitigating the Wind Resource-based Uncertainty in Farm Performance," *Journal of Turbulence (Special Issue on Turbulence and Wind Energy)*, Vol. 13, Issue 13, 2012, pp. 1-26.

Journal Articles: Under Review

9. *Yan, J., *Senemmar, S. and ‡**Zhang, J.**, "Bi-Level Inter-Turn Short Circuit Fault Monitoring for Wind Turbine Generators with Benchmark Dataset Development," (under review).

8. *Li, H., Shen, G., Feng, C., *Senemmar, S., Mehmani, A. and ‡**Zhang, J.**, "Real-time Greenhouse Gas Emission Intensity Informed Demand-Side Load Regulation for Power Grid Decarbonization," (under review).

7. *Badakhshan, S., *Jacob, R. A., Li, B., Wang, P. and ‡**Zhang, J.**, "Reinforcement Learning over Graphs for Intentional Islanding of Power Transmission Networks," (under review).

6. *Badakhshan, S. and ‡**Zhang, J.**, "Generative AI Enabled Cybersecurity of Integrated Energy Systems," (under review).

5. Uddin, J., *Olojede, D., *Jacob, R. A., Coskunuzer, B. and ‡**Zhang, J.**, "MP-Grid: Detecting Power Grid Outages with Topological Machine Learning," (under review).

4. *Rahman, J., *Jacob, R. A. and ‡**Zhang, J.**, "Multi-timescale Power System Operations for Electrolytic Hydrogen Generation in Integrated Nuclear-Renewable Energy Systems," (under review).

3. *Jacob, R. A. and ‡**Zhang, J.**, "A Multitask Graph Learning Approach for Resilience-Oriented Adaptive Microgrid Formation in Active Distribution Networks," (under review).

2. *Senemmar, S. and ‡**Zhang, J.**, "Convolutional Wavelet Neural Network Based Non-intrusive Load Monitoring for Next Generation Shipboard Power Systems," (under review).

1. *Liu, Y., *Wang, J. and ‡**Zhang, J.**, "Electric Vehicle Energy Management via Traffic Light Detection and Segmental Velocity Forecasting," (under review).

Patents

Granted (*student and †postdoc I advised)

2. **Zhang, J.** and *Liu, Y., "J-type Air-Cooled Battery Thermal Management System and Method," US Patent US11850970B2, 12/2023.

Provisional Application

1. *Senemmar, S. and **Zhang, J.**, "Systems and Methods for Detecting Faults in Electrical Power Systems," Application # 63/649,390, 15/2024.

Book and Book Chapters

Book Chapters (*student and †postdoc I advised, ‡corresponding author)

6. **Book Chapter:** Moeini, A., Dabbaghjamanesh, M., Dragicevic, T., Kimball, J. W. and **Zhang, J.**, "Machine Learning Technique for Low-frequency Modulation Techniques in Power Converters," Book Title: *"Control of Power Electronic Converters and Systems, Volume 3,"* Elsevier, 2021, pp. 149-167.

5. **Book Chapter:** *Sun, M. and ‡**Zhang, J.**, "Data-driven Anomaly Detection in Modern Power Systems," Book Title: *"Security of Cyber-Physical Systems: Vulnerability and Impact,"* Springer, 2020, pp. 131-143.

4. **Book Chapter:** *Feng, C., *Sun, M., Dabbaghjamanesh, M., *Liu, Y. and ‡**Zhang, J.**, "Advanced Machine Learning Applications to Modern Power Systems," Book Title: *"New Technologies for Power System Operation and Analysis,"* Elsevier, 2020, pp. 209-257.

3. **Book Chapter:** *Feng, C. and ‡**Zhang, J.**, "Wind Power and Ramp Forecasting for Grid Integration," Book Title: *"Advanced Wind Turbine Technology,"* Springer, 2018, pp. 299-315.

2. **Book Chapter:** Zhang, Y., Yang, R., **Zhang, J.**, Weng, Y. and Hodge, B.-M., "Predictive Analytics for Comprehensive Energy Systems State Estimation," Book Title: *"Big Data Applications for Power Systems,"* Elsevier, 2018, pp. 343-376.

1. **Book Chapter:** Ganley, J., **Zhang, J.** and Hodge, B.-M., "Wind Energy," Book Title: *"Alternative Energy Sources and Technologies: Process Design and Operations,"* Springer, 2016, pp. 159-180.

Conference Publications

Full-length Peer-Reviewed Conference Articles (*student and †postdoc I advised)

114. *Yan, J., Feng, C., Sun, M. and ‡**Zhang, J.**, "Short-term Probabilistic Solar Forecasting via Reinforcement Learning over ECMWF," *IEEE Power & Energy Society General Meeting*, Seattle, WA, July 21-25, 2024. (**Best Paper Award**)

113. *Li, H., Li, M., Carroll, J. and ‡**Zhang, J.**, "Techno-Economic Analysis Incorporating Intelligent Operation and Maintenance Management: A Case Study of An Integrated Offshore Wind and Hydrogen Energy System," *The Science of Making Torque from Wind (TORQUE 2024)*, Florence, Italy, May 29-31, 2024.

112. *Yan, J., *Senemmar and ‡**Zhang, J.**, "Inter-turn Short Circuit Fault Diagnosis and Severity Estimation for Wind Turbine Generators," *The Science of Making Torque from Wind (TORQUE 2024)*, Florence, Italy, May 29-31, 2024.

111. *Olojede, D., Uddin, J., *Jacob, R. A., Coskunuzer, B. and ‡**Zhang, J.**, "Cyber Attack Detection in Distribution Networks with Topological Data Analytics aided Learning," *IEEE Kansas Power and Energy Conference (KPEC)*, Manhattan, Kansas, April 25 - 26, 2024.

110. *Wang, J., †Kaushik, H. and ‡**Zhang, J.**, "Optimal Planning of Electric Vehicle Charging Stations: Integrating Public Charging Networks and Transportation Congestion," *IEEE Kansas Power and Energy Conference (KPEC)*, Manhattan, Kansas, April 25 - 26, 2024.

109. †Kaushik, H., *Jacob, R. A., Chowdhury, S. and ‡**Zhang, J.**, "Distribution Network Restoration: Resource Scheduling Considering Coupled Transportation-Power Networks," *IEEE Kansas Power and Energy Conference (KPEC)*, Manhattan, Kansas, April 25 - 26, 2024.

108. Huang, J., Li. B., Poudel, B. and **Zhang, J.**, "Optimal Operations of Nuclear-based Integrated Energy Systems with Mixed-Integer Programming," *IEEE Texas Power and Energy Conference (TPEC)*, College Station, TX, Feb 12 - 13, 2024.

107. *Li, H., Feng, C. and ‡**Zhang, J.**, "A Multi-Fidelity Gaussian Process Regression Method For Probabilistic Wind Farm Power Curve Estimation," *ASME 2023 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Paper No. IDETC2023-114762, Boston, MA, August 20-23, 2023.

106. *Badakhshan, S., *Senemmar, S. and ‡**Zhang, J.**, "Dynamic Modeling and Reliable Operation of All-Electric Ships with Small Modular Reactors and Battery Energy Systems," *IEEE Electric Ship Technologies Symposium (ESTS)*, Old Town Alexandria, VA, August 1 - 4, 2023.

105. *Senemmar, S., *Badakhshan, S. and ‡**Zhang, J.**, "Dynamic Modeling and Simulation of Thermal-Electrical Energy Systems in MVDC All-Electric Ships with Small Modular Reactors," *IEEE Electric Ship Technologies Symposium (ESTS)*, Old Town Alexandria, VA, August 1 - 4, 2023.

104. *He, L., ‡**Zhang, J.** and Hobbs, B., "Estimation of Regulation Reserve Requirements in California ISO: A Data-driven Method," *IEEE Power & Energy Society General Meeting*, Orlando, FL, July 16-20, 2023. (**Best Paper Award**)

103. *Wang, J., *Jacob, R. A., and ‡**Zhang, J.**, "Voltage Regulation in Distribution Networks via Fleet Electric Vehicles Incentive Service," *19th International Conference on the European Energy Market*, Lappeenranta, Finland, June 6-8, 2023.

102. *Li, H., Kiviluoma, J. and ‡**Zhang, J.**, "Techno-Economic Analysis for Co-located Solar and Hydrogen Plants," *19th International Conference on the European Energy Market*, Lappeenranta, Finland, June 6-8, 2023.

101. *Badakhshan, S., *Jacob, R. A., Li. B. and ‡**Zhang, J.**, "Reinforcement Learning for Intentional Islanding in Resilient Power Transmission Systems," *IEEE Texas Power and Energy Conference (TPEC)*, College Station, TX, Feb 13 - 14, 2023.

100. *He, L. and ‡**Zhang, J.**, "Privacy-preserving Local Electricity Market: A Federated Learning-based Case Study," *The 54th North American Power Symposium*, Salt Lake, Utah, October 9-11, 2022.

99. *Rahman, J., *Jacob, R. A. and ‡**Zhang, J.**, "Harnessing Operational Flexibility from Power to Hydrogen in A Grid-Tied Integrated Energy System," *ASME 2022 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Paper No. IDETC2022-89621, St. Louis, Missouri, August 14-17, 2022.

98. Wu, J., Chen, X., **Zhang, J.** and Wang, P., "Optimizing Intentional Islanding Design Strategies for Enhanced Failure Resilience of Power Systems," *ASME 2022 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Paper No. IDETC2022-89619, St. Louis, Missouri, August 14-17, 2022.

97. *Li, H., *Rahman, J. and ‡**Zhang, J.**, "Optimal Planning of Co-Located Wind Energy and Hydrogen Plants: A Techno-Economic Analysis," *The Science of Making Torque from Wind (TORQUE 2022)*, Delft, Netherlands, June 1-3, 2022.

96. *Badakhshan, S., *Senemmar, S., *Li, H. and ‡**Zhang, J.**, "Integrating Offshore Wind Farms with Unmanned Hydrogen and Battery Ships," *IEEE Kansas Power and Energy Conference (KPEC)*, Manhattan, Kansas, April 25 - 26, 2022.

95. *Rahman, J., *Jacob, R. A., Paul, S., Chowdhury, S. and ‡**Zhang, J.**, "Reinforcement Learning Enabled Microgrid Network Reconfiguration Under Disruptive Events," *IEEE Kansas Power and Energy Conference (KPEC)*, Manhattan, Kansas, April 25 - 26, 2022.

94. *Senemmar, S. and ‡**Zhang, J.**, "Non-intrusive Load Monitoring in MVDC Shipboard Power Systems using Wavelet-Convolutional Neural Networks," *IEEE Texas Power and Energy Conference (TPEC)*, College Station, TX, Feb 28 - March 1, 2022.

93. *Badakhshan, S., *Senemmar, S. and ‡**Zhang, J.**, "Dynamic Feasibility Assessment of Ship-to-Grid Interconnection by DC-Link," *IEEE Texas Power and Energy Conference (TPEC)*, College Station, TX, Feb 28 - March 1, 2022.

92. *Jacob, R. A., Paul, S., Li, W., Chowdhury, S., Gel, Y. R. and ‡**Zhang, J.**, "Reconfiguring Unbalanced Distribution Networks using Reinforcement Learning over Graphs," *IEEE Texas Power and Energy Conference (TPEC)*, College Station, TX, Feb 28 - March 1, 2022.

91. *Jacob, R. A., *Rahman, J. and ‡**Zhang, J.**, "Dynamic Modeling and Simulation of Integrated Energy Systems with Nuclear, Renewable, and District Heating," *The 53rd North American Power Symposium*, College Station, Texas, November 14-16, 2021

90. *He, L. and ‡**Zhang, J.**, "Customized Prices Design for Agent-based Local Energy Market with PV and Energy Storage," *The 53rd North American Power Symposium*, College Station, Texas, November 14-16, 2021.

89. Hobbs, B., Krishnan, V., **Zhang, J.**, Hamann, H., Siebenschuh, C., Zhang, R., †Li, B., Krad, I., Spyrou, E., Wang, Y. and Zhang, S., "Development of Flexible Ramp Product Procurement for the California ISO using Probabilistic Solar Power Forecasts," *Solar World Congress*, Virtual, October 25-29, 2021.

88. *Jacob, R. A., *Senemmar, S. and ‡**Zhang, J.**, "Fault Diagnostics in Shipboard Power Systems using Graph Neural Networks," *IEEE International Symposium on Diagnostics for Electric Machines, Power Electronics and Drives*, Virtual, August 22-25, 2021.

87. Li, D., Wu, J., **Zhang, J.** and Wang, P., "Co-Design Optimization of a Combined Heat and Power Hybrid Energy System," *ASME 2021 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Paper No. DETC2021-71304, Virtual, August 17-20, 2021.

86. *Liu, Y. and ‡**Zhang, J.**, "Short-Term Vehicle Velocity Forecasting Via Cycle Segmentation Model Selection," *ASME 2021 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Paper No. DETC2021-69058, Virtual, August 17-20, 2021. (**Top 10 Best Paper Award**)

85. *Senemmar, S. and ‡**Zhang, J.**, "Deep Learning-based Fault Detection, Classification, and Locating in Shipboard Power Systems," *IEEE Electric Ship Technologies Symposium*, Virtual, August 3-6, 2021.

84. *Jacob, R. A. and ‡**Zhang, J.**, "Outage Management in Active Distribution Network with Distributed Energy Resources," *The 52nd North American Power Symposium*, Virtual, April 11-13, 2021.

83. †Li, B., *Feng, C. and ‡**Zhang, J.**, "Multi-Timescale Simulation of Non-Spinning Reserve in Wholesale Electricity Markets," *2021 IEEE Green Technologies Conference (GreenTech)*, Virtual, April 7-9, 2021.

82. *Rahman, J. and ‡**Zhang, J.**, "Optimization of Nuclear-Renewable Hybrid Energy System Operation in Forward Electricity Market," *2021 IEEE Green Technologies Conference (GreenTech)*, Virtual, April 7-9, 2021.

81. *Liu, Y. and ‡**Zhang, J.**, "A Model Predictive Control-Based Energy Management Strategy Considering Electric Vehicle Battery Thermal and Cabin Climate Control," *ASME 2020 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Paper No. DETC2020-22318, St. Louis, MO, August 16-19, 2020. (**Top 10 Best Paper Award**)

80. *He, L. and ‡**Zhang, J.**, "Distributed Energy Sharing within Community: A Game-Theoretic Double Auction Approach," *IEEE Power & Energy Society General Meeting*, Montreal, Canada, August 2-6, 2020.

79. *Jacob, R. A. and ‡**Zhang, J.**, "Distribution Network Reconfiguration to Increase Photovoltaic Hosting Capacity," *IEEE Power & Energy Society General Meeting*, Montreal, Canada, August 2-6, 2020.

78. *Feng, C., *Sun, M., ‡**Zhang, J.**, Doubleday, K., Hodge, B.-M. and Du, P., "A Data-driven Method for Adaptive Reserve Requirements Estimation via Probabilistic Net Load Forecasting," *IEEE Power & Energy Society General Meeting*, Montreal, Canada, August 2-6, 2020.

77. *Rahman, J., *Feng, C. and ‡**Zhang, J.**, "Machine Learning-Aided Security Constrained Optimal Power Flow," *IEEE Power & Energy Society General Meeting*, Montreal, Canada, August 2-6, 2020.

76. *Sun, M., *Feng, C. and ‡**Zhang, J.**, "Factoring Behind-the-Meter Solar into Load Forecasting: Case Studies under Extreme Weather," *The Eleventh Conference on Innovative Smart Grid Technologies (ISGT 2020)*, Washington D.C., February 17-20, 2020.

75. Dabbaghjamanesh, M. and ‡**Zhang, J.** , "Deep Learning-based Real-time Switching of Reconfigurable Microgrids," *The Eleventh Conference on Innovative Smart Grid Technologies (ISGT 2020)*, Washington D.C., February 17-20, 2020.

74. †Li, B., ‡**Zhang, J.** and Hobbs, B., "A Copula Enhanced Convolution for Uncertainty Aggregation," *The Eleventh Conference on Innovative Smart Grid Technologies (ISGT 2020)*, Washington D.C., February 17-20, 2020.

73. *Feng, C. and ‡**Zhang, J.**, "SolarNet: A Deep Convolutional Neural Network for Solar Forecasting via Sky Images," *The Eleventh Conference on Innovative Smart Grid Technologies (ISGT 2020)*, Washington D.C., February 17-20, 2020.

72. *Liu, Y. and ‡**Zhang, J.**, "Self-Adapting Intelligent Battery Thermal Management System via Artificial Neural Network based Model Predictive Control," *ASME 2019 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Paper No. DETC2019-98205, Anaheim, CA, August 18-21, 2019.

71. †Li, B. and ‡**Zhang, J.**, "A Clustering Based Scenario Generation Method for Stochastic Power System Analysis," *IEEE Power & Energy Society General Meeting*, Atlanta, GA, August 4-8, 2019.

70. *He, L. and ‡**Zhang, J.**, "Distributed Solar Energy Sharing within Connected Communities: A Coalition Game Approach," *IEEE Power & Energy Society General Meeting*, Atlanta, GA, August 4-8, 2019.

69. *Sun, M., *Feng, C. and ‡**Zhang, J.**, "Aggregated Probabilistic Wind Power Forecasting Based on Spatio-Temporal Correlation," *IEEE Power & Energy Society General Meeting*, Atlanta, GA, August 4-8, 2019.

68. Ofori-Boateng, D., Dey, A., Gel, Y. R., †Li, B., **Zhang, J.**, Poor, H. V., "Assessing the Resilience of The Texas Power Grid Network," *IEEE Data Science Workshop*, Minneapolis, MN, June 2-5, 2019.

67. Dabbaghjamanesh, M., Wang, B., Mehraeen, S., **Zhang, J.** and Kavousi-Fard, A., "Networked Microgrid Security and Privacy Enhancement By the Blockchain-enabled Internet of Things Approach," *2019 IEEE Green Technologies Conference (GreenTech)*, Lafayette, LA, April 3-6, 2019.

66. †Li, B., ‡**Zhang, J.**, Mehmani, A. and Culligan, P., "Analyze the Break-even Cost of Lithium-ion Battery under Time-of-use Pricing Tariffs," *The 10th Conference on Innovative Smart Grid Technologies (ISGT 2019)*, Washington D.C., February 18-21, 2019.

65. *Feng, C. and ‡**Zhang, J.**, "Reinforcement Learning based Dynamic Model Selection for Short-Term Load Forecasting," *The 10th Conference on Innovative Smart Grid Technologies (ISGT 2019)*, Washington D.C., February 18-21, 2019.

64. *Liu, Y., Ghassemi, P., Chowdhury, S. and ‡**Zhang, J.**, "Surrogate based Multi-objective Optimization of J-Type Battery Thermal Management System," *ASME 2018 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Paper No. DETC2018-85620, Quebec City, Canada, August 26-29, 2018.

63. *Feng, C. and ‡**Zhang, J.**, "Short-Term Load Forecasting With Different Aggregation Strategies," *ASME 2018 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Paper No. DETC2018-86084, Quebec City, Canada, August 26-29, 2018.

62. *Feng, C. and ‡**Zhang, J.**, "Hourly-Similarity Based Solar Forecasting Using Multi-Model Machine Learning Blending," *IEEE Power & Energy Society General Meeting*, Portland, OR, August 5-10, 2018.

61. *Sun, M., *Feng, C., ‡**Zhang, J.**, Chartan, E. and Hodge, B.-M., "Probabilistic Short-term Wind Forecasting Based on Pinball Loss Optimization," *Probabilistic Methods Applied to Power Systems Conference (PMAPS)*, Boise, Idaho, June 24-28, 2018.

60. Zhu, K., Chowdhury, S., *Sun, M. and ‡**Zhang, J.**, "Grid Optimization of Shared Energy Storage Among Wind Farms Based On Wind Forecasting," *2018 IEEE PES Transmission & Distribution Conference & Exposition*, Denver, CO, April 16-19, 2018.

59. *Sun, M., *Chang, C.-L., ‡**Zhang, J.**, Mehmani, A. and Culligan, P., "Break-even Analysis of Battery Energy Storage in Buildings Considering Time-of-use Rates," *2018 IEEE Green Technologies Conference (GreenTech)*, Austin, TX, April 4-6, 2018. (**Best Paper Award**)

58. *Feng, C., Chartan, E., Hodge, B.-M. and ‡**Zhang, J.**, "Characterizing Time Series Data Diversity for Wind Forecasting," *The 4th IEEE/ACM International Conference on Big Data Computing, Applications and Technologies (BDCAT 2017)*, Austin, TX, December 5-8, 2017. (**Best Student Paper Award**)

57. *Liu, Y., †Li, M. and ‡**Zhang, J.**, "An Experimental Parametric Study of Air-Based Battery Thermal Management System for Electric Vehicles," *ASME 2017 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Paper No. DETC2017-67841, Cleveland, Ohio, August 6-9, 2017.

56. †Cui, M., *Wang, Z., *Feng, C. and ‡**Zhang, J.**, "A Truncated Gaussian Mixture Model for Distributions of Wind Power Ramping Features," *IEEE Power & Energy Society General Meeting*, Chicago, IL, July 16-20, 2017.

55. †Cui, M., *Feng, C., *Wang, Z., ‡**Zhang, J.**, Wang, Q., Florita, A., Krishnan, V. and Hodge, B.-M., "Probabilistic Wind Power Ramp Forecasting Based on a Scenario Generation Method," *IEEE Power & Energy Society General Meeting*, Chicago, IL, July 16-20, 2017.

54. *Feng, C., †Cui, M., *Lee, M., ‡**Zhang, J.**, Hodge, B.-M., Lu., S. and Hamann, H. F., "Short-term Global Horizontal Irradiance Forecasting Based on Sky Imaging and Pattern Recognition," *IEEE Power & Energy Society General Meeting*, Chicago, IL, July 16-20, 2017. (**Best Paper Award**)

53. †Li, M., *Wang, X., *Liu, Y., *Zou, Z., †Cui. M. and ‡**Zhang, J.**, "Multidisciplinary Design Optimization of Air-based Battery Thermal Management System in Electric Vehicles," *AIAA Science and Technology Forum and Exposition*, Grapevine, Texas, January 9-13, 2017.

52. Ashuri, T., *Ponnurangam, C., **Zhang, J.** and Rotea, M., "Integrated Layout and Support Structure Optimization for Offshore Wind Farm Design," *The Science of Making Torque from Wind (TORQUE 2016)*, Munich, Germany, October 5-7, 2016.

51. *Cui, M., ‡**Zhang, J.**, Wu, H., Hodge, B.-M., Ke, D. and Sun, Y., "Wind Power Ramping Product for Increasing Power System Flexibility," *2016 IEEE PES Transmission & Distribution Conference & Exposition*, Dallas, Texas, May 2-5, 2016.

50. *Cheung, W., **Zhang, J.**, Florita, A., Lu, S., Sun, Q., Lehman, B., Hamann, H. F., Hodge, B.-M., "Ensemble Solar Forecasting Statistical Quantification and Sensitivity Analysis," *5th International Workshop on Integration of Solar Power into Power Systems*, Brussels, Belgium, October 19-20, 2015.

49. Florita, A., **Zhang, J.**, Brancucci Martinez-Anido, C., *Cui, M., Hodge, B.-M., "Probabilistic Swinging Door Algorithm as Applied to Photovoltaic Power Ramping Event Detection," *5th International Workshop on Integration of Solar Power into Power Systems*, Brussels, Belgium, October 19-20, 2015.

48. *Cui, M., ‡**Zhang, J.**, Florita, A., Hodge, B.-M., Ke, D. and Sun, Y., "Solar Power Ramp Events Detection Using An Optimized Swinging Door Algorithm," *ASME 2015 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Paper No. DETC2015-46849, Boston, Massachusetts, August 2-5, 2015.

47. Wu, H., Ela, E., Krad, I., Florita, A., **Zhang, J.**, Hodge, B.-M., Ibanez, E. and Gao, W., "An Assessment of the Impact of Stochastic Day-Ahead SCUC on Economic and Reliability Metrics at Multiple Timescales," *IEEE Power & Energy Society General Meeting*, Denver, Colorado, July 26-30, 2015. (**Best Paper Award**)

46. *Cui, M., **Zhang, J.**, Florita, A., Hodge, B.-M., Ke, D. and Sun, Y., "An Optimized Swinging Door Algorithm for Wind Power Ramp Events Detection," *IEEE Power & Energy Society General Meeting*, Denver, Colorado, July 26-30, 2015.

45. *Cui, M., Sun, Y., Ke, D., Gan, D., **Zhang, J.** and Hodge, B.-M., "A Scenario Generation Method for Wind Power Ramp Events Forecasting," *IEEE Power & Energy Society General Meeting*, Denver, Colorado, July 26-30, 2015.

44. ‡**Zhang, J.**, Hodge, B.-M., Lu, S., Hamann, H. F., Lehman, B., Simmons, J., Campos, E. and Banunarayanan, V., "Baseline and Target Values for PV Forecasts: Towards Improved Solar Power Forecasting," *IEEE Power & Energy Society General Meeting*, Denver, Colorado, July 26-30, 2015.

43. Lu, S., Hwang, Y., Khabibrakhmanov, I., Marianno, F. J., Shao, X., **Zhang, J.**, Hodge, B.-M. and Hamann, H. F., "Machine Learning Based Multi-Physical-Model Blending for Enhancing Renewable Energy Forecast Improvement via Situation Dependent Error Correction," *European Control Conference*, Linz, Austria, July 15-17, 2015.

42. ‡**Zhang, J.**, Florita, A., Hodge, B.-M. and Freedman, J., "Ramp Forecasting Performance from Improved Short-Term Wind Power Forecasting," *ASME 2014 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Paper No. DETC2014-34775, Buffalo, New York, August 17-20, 2014.

41. **Zhang, J.** and Hodge, B.-M., "Forecastability as a Design Criterion in Wind Resource Assessment," *8th International Conference on Foundations of Computer-Aided Process Design*, Cle Elum, Washington, July 13-17, 2014.

40. ‡**Zhang, J.**, Chowdhury, S. and Hodge, B.-M., "Analyzing Effects of Turbulence on Power Generation Using Wind Plant Monitoring Data," *AIAA Science and Technology Forum and Exposition*, Paper No. AIAA 2014-0708, National Harbor, Maryland, January 13-17, 2014.

39. **Zhang, J.**, Hodge, B.-M., Miettinen, J., Holttinen, H., Gomez-Lazaro, E., Cutululis, N., Litong-Palima, M., Sorensen, P., Lovholm, A. L., Berge, E. and Dobschinski, J., "Analysis of Variability and Uncertainty in Wind Power Forecasting: An International Comparison," *12th International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants*, Paper No. WIW13-1115, London, UK, October 22-24, 2013.

38. *Steckler, N., Florita, A., **Zhang, J.** and Hodge, B.-M., "Analysis and Synthesis of Load Forecasting Data for Renewable Integration Studies," *12th International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants*, Paper No. WIW13-1206, London, UK, October 22-24, 2013.

37. **Zhang, J.**, Hodge, B.-M., Florita, A., Lu, S., Hamann, H. F. and Banunarayanan, V., "Metrics for Evaluating the Accuracy of Solar Power Forecasting," *3rd International Workshop on Integration of Solar Power into Power Systems*, Paper No. SIW13-1036, London, UK, October 21-22, 2013.

36. ‡**Zhang, J.**, Chowdhury, S., Messac, A. and Hodge, B.-M., "Assessing Long-Term Wind Conditions by Combining Different Measure-Correlate-Predict Algorithms," *ASME 2013 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Paper No. DETC2013-12695, Portland, Oregon, August 4-7, 2013.

35. Tong, W., Chowdhury, S., Mehmani, A., **Zhang, J.** and Messac, A., "Sensitivity of Array-like and Optimized Wind Farm Output to Key Factors and Choice of Wake Models," *ASME 2013 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Paper No. DETC2013-13196, Portland, Oregon, August 4-7, 2013.

34. ‡**Zhang, J.**, Hodge, B.-M. and Florita, A., "Investigating The Correlation Between Wind and Solar Power Forecast Errors in The Western Interconnection," *ASME 2013 7th International Conference on Energy Sustainability*, Paper No. ESFuelCell2013-18423, Minneapolis, MN, July 14-19, 2013.

33. Mehmani, A., Chowdhury, S., **Zhang, J.**, Tong, W. and Messac, A., "Model Selection based on Regional Error Estimation of Surrogates," *10th World Congress on Structural and Multidisciplinary Optimization*, Orlando, FL, May 19-24, 2013.

32. Mehmani, A., Chowdhury, S., **Zhang, J.**, Tong, W. and Messac, A., "Quantifying Regional Error in Surrogates by Modeling its Relationship with Sample Density," *54th AIAA/ASME/ASCE /AHS/ASC Structures, Structural Dynamics and Materials Conference*, Paper No. AIAA 2013-1751, Boston, MA, April 8-11, 2013.

31. Zhang, Junquang, Chowdhury, S., **Zhang, J.**, Tong, W. and Messac, A., "Optimal Preventive Maintenance Time Windows for Offshore Wind Farms Subject to Wake Losses," *14th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference*, Paper No. AIAA 2012-5435, Indianapolis, Indiana, September 17-19, 2012.

30. Mehmani, A., Chowdhury, S., **Zhang, J.** and Messac, A., "Regional Error Estimation of Surrogates (REES)," *14th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference*, Paper No. AIAA 2012-5707, Indianapolis, Indiana, September 17-19, 2012.

29. Tong, W., Chowdhury, S., **Zhang, J.** and Messac, A., "Impact of Different Wake Models On the Estimation of Wind Farm Power Generation," *14th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference*, Paper No. AIAA 2012-5430, Indianapolis, Indiana, September 17-19, 2012.

28. Chowdhury, S., **Zhang, J.**, Mehmani, A., Messac, A. and Castillo, L., "Exploring the "Cost - Capacity Factor" Tradeoffs Offered by the Best Performing Commercial Turbines," *14th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference*, Paper No. AIAA 2012-5433, Indianapolis, Indiana, September 17-19, 2012.

27. **Zhang, J.**, Chowdhury, S. and Messac, A., "Uncertainty Quantification in Surrogate Models Based on Pattern Classification of Cross-validation Errors," *14th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference*, Paper No. AIAA 2012-5437, Indianapolis, Indiana, September 17-19, 2012.

26. Chowdhury, S., **Zhang, J.**, Messac, A. and Castillo, L., "Characterizing The Influence of Land Area and Nameplate Capacity on The Optimal Wind Farm Performance," *ASME 2012 6th International Conference on Energy Sustainability*, Paper No. ESFuelCell2012-91063, San Diego, CA, July 23-26, 2012.

25. **Zhang, J.**, Chowdhury, S., Messac, A. and Castillo, L., "A Hybrid Measure-Correlate-Predict Method for Wind Resource Assessment," *ASME 2012 6th International Conference on Energy Sustainability*, Paper No. ESFuelCell2012-91070, San Diego, CA, July 23-26, 2012.

24. Hou Y., Sun, Y., **Zhang, J.**, Li, L. and Chen, L., "Investigating The Subjective-Objective Correlation abdout On-Center Handling Characteristics Using Response Surface Method," *2012 7th International Conference on System of Systems Engineering (SoSE)*, Genova, Italy, July 16-19, 2012, pp. 784-788.

23. Zhang, Junqiang, Messac, A., **Zhang, J.** and Chowdhury, S., "Improving the Accuracy of Surrogate Models Using Inverse Transform Sampling," *53rd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference*, Paper No. AIAA 2012-1429, Honolulu, Hawaii, April 23-26, 2012.

22. Chowdhury, S., **Zhang, J.**, Catalano, M., Mehmani, A., Notaro, S., Messac, A. and Castillo, L., "Exploring the Best Performing Commercial Wind Turbines for Different Wind Regimes in a Target Market," *53rd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference*, Paper No. AIAA 2012-1352, Honolulu, Hawaii, April 23-26, 2012. **(Top 6 Best Student Paper Award)**

21. Chowdhury, S., **Zhang, J.** and Messac, A., "Avoiding Premature Convergence in a Mixed-Discrete Particle Swarm Optimization (MDPSO) Algorithm," *53rd AIAA/ASME/ASCE /AHS/ASC Structures, Structural Dynamics and Materials Conference*, Paper No. AIAA 2012-1678, Honolulu, Hawaii, April 23-26, 2012.

20. Mehmani, A., **Zhang, J.**, Chowdhury, S. and Messac, A., "Surrogate-based Design Optimization with Adaptive Sequential Sampling," *53rd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference*, Paper No. AIAA 2012-1527, Honolulu, Hawaii, April 23-26, 2012.

19. **Zhang, J.**, Chowdhury, S. and Messac, A., "Domain Segmentation based on Uncertainty in the Surrogate (DSUS)," *53rd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference*, Paper No. AIAA 2012-1929, Honolulu, Hawaii, April 23-26, 2012.

18. **Zhang, J.**, Chowdhury, S., Messac, A., Zhang, Junqiang and Castillo, L., "Surrogate Modeling of Complex Systems Using Adaptive Hybrid Functions," *ASME 2011 International Design Engineering Technical Conferences (IDETC) and Computers and Information in Engineering Conference (CIE)*, Paper No. DETC2011-48608, Washington, DC, August 28-31, 2011.

17. Chowdhury, S., **Zhang, J.**, Messac, A. and Castillo, L., "Characterizing the Influence of Land Configuration on the Optimal Wind Farm Performance," *ASME 2011 International Design Engineering Technical Conferences (IDETC) and Computers and Information in Engineering Conference (CIE)*, Paper No. DETC2011-48731, Washington, DC, August 28-31, 2011.

16. **Zhang, J.**, Chowdhury, S., Messac, A. and Castillo, L., "Multivariate and Multimodal Wind Distribution Model Based on Kernel Density Estimation," *ASME 2011 5th International Conference on Energy Sustainability*, Paper No. ESFuelCell2011-54507, Washington DC, August 7-10, 2011.

15. **Zhang, J.**, Chowdhury, S., Messac, A. and Castillo, L., "A Comprehensive Measure of the Energy Resource Potential of a Wind Farm Site," *ASME 2011 5th International Conference on Energy Sustainability*, Paper No. ESFuelCell2011-54677, Washington DC, August 7-10, 2011.

14. Chowdhury, S., **Zhang, J.**, Messac, A. and Castillo, L., "Developing a Flexible Platform for the Optimal Design of Commercial-Scale Wind Farms," *ASME 2011 5th International Conference on Energy Sustainability*, Paper No. ESFuelCell2011-54503, Washington DC, August 7-10, 2011.

13. Messac, A., Chowdhury, S. and **Zhang, J.**, "Modeling the Uncertainty in Farm Performance Introduced by the Ill-predictability of the Wind Resource," *41st AIAA Fluid Dynamics Conference and Exhibit*, Paper No. AIAA 2011-3302, Honolulu, Hawaii, June 27-30, 2011.

12. **Zhang, J.**, Chowdhury, S. and Messac, A., "A New Robust Surrogate Model: Reliability Based Hybrid Functions," *52nd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference*, Paper No. AIAA 2011-2152, Denver, Colorado, April 4-7, 2011.

11. Chowdhury, S., **Zhang, J.**, Messac, A. and Castillo, L., "Characterizing the Uncertainty Propagation from the Wind Conditions to the Optimal Farm Performance," *52nd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference*, Paper No. AIAA 2011-1821, Denver, Colorado, April 4-7, 2011.

10. **Zhang, J.**, Chowdhury, S., Messac, A. and Castillo, L., "Economic Evaluation of Wind Farms Based on Cost of Energy Optimization," *13th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference*, Paper No. AIAA 2010-9244, Fort Worth, Texas, September 13-15, 2010.

9. Chowdhury, S., **Zhang, J.**, Messac, A. and Castillo, L., "Exploring Key Factors Influencing Optimal Farm Design Using Mixed-Discrete Particle Swarm Optimization," *13th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference*, Paper No. AIAA 2010-9280, Fort Worth, Texas, September 13-15, 2010.

8. Zhang, Junqiang, Messac, A., Chowdhury, S. and **Zhang, J.**, "Comparison of Surrogate Models Used for Adaptive Optimal Control of Active Thermoelectric Windows," *13th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference*, Paper No. AIAA-2010-9279, Fort Worth, Texas, September 13-15, 2010.

7. **Zhang, J.**, Chowdhury, S., Messac, A., Castillo, L. and Lebron, J., "Response Surface Based Cost Model for Onshore Wind Farms Using Extended Radial Basis Functions," *ASME 2010 International Design Engineering Technical Conferences (IDETC) and Computers and Information in Engineering Conference (CIE)*, Paper No. DETC2010-29121, Montreal, Canada, August 15-18, 2010.

6. Chowdhury, S., Messac, A., **Zhang, J.**, Castillo, L. and Lebron, J., "Optimizing the Unrestricted Placement of Turbines of Differing Rotor Diameters in a Wind Farm for Maximum Power Generation," *ASME 2010 International Design Engineering Technical Conferences (IDETC) and Computers and Information in Engineering Conference (CIE)*, Paper No. DETC2010-29129, Montreal, Canada, August 15-18, 2010.

5. Zhang, Junqiang, Messac, A., Chowdhury, S. and **Zhang, J.**, "Adaptive Optimal Design of Active Thermally Insulated Windows Using Surrogate Modeling," *51st AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference*, Paper No. AIAA 2010-2917, Orlando, Florida, April 12-15, 2010.

4. **Zhang, J.**, Zhang, Y., Chen, L. and Yang, J., "A Fuzzy Synthesis Control Strategy for Active Four-Wheel Steering Based on Multi-Body Models," *SAE World Congress & Exhibition*, Paper No. SAE2008-01-0603, Detroit, MI, April 14-17, 2008.

3. **Zhang, J.** and Zhang, Y., "Fractional-order $PI^{\lambda}D^{\mu}$ Control and Optimization For Vehicle Active Steering," *Proceedings of the 7th World Congress on Intelligent Control and Automation*, Chongqing, China, June 25 - 27, 2008.

2. Hou, Y., **Zhang, J.**, Zhang, Y. and Chen, L., "Integrated Chassis Control Using ANFIS," *2008 IEEE International Conference on Automation and Logistics*, Qingdao, China, September 1-3, 2008, pp. 1625-1630.

1. **Zhang, J.**, Zhang, Y., Chen, L. and Yang, J., "A Fuzzy Control Strategy and Optimization for Four Wheel Steering System," *2007 IEEE International Conference on Vehicular Electronics and Safety*, Beijing, China, October 12-15, 2007.

TECHNICAL REPORTS

Technical Reports

12. Jascourt, S., Doubleday, K., **Zhang, J.**, *Feng, C., Florita, A., and Hodge, B.-M., "Solar Uncertainty Management and Mitigation for Exceptional Reliability in Grid Operations (SUMMER-GO): Project Final Report," *NREL Technical Report: NREL/TP-6A40-84147*, April 2023.

11. *Wang, J. and **Zhang, J.**, "Plug and Play Hydrogen Microgrid," *Technical Report: ARL-CR-0872*, September 2022.

10. *Li, H., Rahman, J. and **Zhang, J.**, "Co-located Wind Farm and Hydrogen Plant Energy System Study," *Technical Report for WindSTAR Project*, September 2022.

9. Hobbs, B., Krishnan, V., Hamann, H., **Zhang, J.**, Zhang, R., Siebenschuh, C.,†Li, B., *He, L., Fang, X., Spyrou, E., Krad, I., Wang, Y., Xu, Q., and Zhang, S., "Coordinated Ramping Product and Regulation Reserve Procurements in CAISO and MISO using Multi-Scale Probabilistic Solar Power Forecasts (Pro2R)," *Technical Report: DE-EE0008215*, doi:10.2172/1873393, June 2022.

8. Fang, X., Sedzro, K., Hodge, B.-M., **Zhang, J.**, †Li, B. and Cui, M., "Providing Ramping Service with Wind to Enhance Power System Operational Flexibility," *NREL Technical Report: TP-5D00-73643*, 2020.

7. *Sun, M., *Feng, C. and **Zhang, J.**, "Data-Driven Hierarchical Load Forecasting with Distributed Energy Resources," *Technical Report for Oncor Electric Delivery*, October 2019.

6. *Feng, C., *Xin Li and **Zhang, J.**, "Data-Driven Hierarchical Load Forecasting," *Technical Report for Oncor Electric Delivery*, December 2018.

5. *Feng, C. and **Zhang, J.**, "Outage and Load Forecasting," *Technical Report for Oncor Electric Delivery*, April 2018.

4. Hamann, H. et al., "A Multi-scale, Multi-Model, Machine-Learning Solar Forecasting Technology," Technical Report: DE-EE0006017, *DOE EERE SunShot Initiative*, May 2017.

3. Wilczak, J. et al., "The Wind Forecast Improvement Project (WFIP): A Public/Private Partnership for Improving Short Term Wind Energy Forecasts and Quantifying the Benefits of Utility Operations," *DOE EERE Wind Energy Technologies Office*, April 2014.

2. Freedman, J. et al., "The Wind Forecast Improvement Project (WFIP): A Public/Private Partnership for Improving Short Term Wind Energy Forecasts and Quantifying the Benefits of Utility Operations — the Southern Study Area," *DOE EERE Wind Energy Technologies Office*, April 2014.

1. Hummon, M., Cochran, J., Weekley, A., Lopez, A., **Zhang, J.**, Stoltenberg, B., Parsons, B., Batra, P., Mehta, B. and Patel, D., "Variability of Photovoltaic Power in the State of Gujarat Using High Resolution Solar Data," *NREL Technical Report: TP-7A40-60991*, March 2014.

PROFESSIONAL AND PUBLIC LECTURES

Invited Talks and Lectures

49. "Outage Management in Power Distribution Networks Using Reinforcement Learning over Graphs," *INFORMS 2024 Annual Meeting*, Seattle, WA, October 20-23, 2024.

48. "Integrated Thermal-Electric Energy Management of All-Electric Ship with Advanced Nuclear Reactors," *DOE National Reactor Innovation Center Program Review*, Idaho National Laboratory, April 23-25, 2024.

47. "Integrated Nuclear-Renewable-Hydrogen Energy Systems Design and Optimization," *University of South Carolina*, Columbia, SC, February 2024.

46. "Optimization and Learning Enabled Sustainable and Resilient Energy Systems," *Keynote Speech Hosted by IEEE Finland*, Helsinki, Finland, May 2023.

45. "Techno-Economic Analysis for Co-located Solar and Hydrogen Plants," *Fulbright Forum on Education, Innovation, Science, and Art*, Helsinki, Finland, April 2023.

44. "Optimization and Learning Enabled Sustainable and Resilient Energy Systems," *The University of Texas at Austin*, Austin, TX, March 2023.

43. "Learning-Enabled Sustainable and Resilient Energy Systems," *Texas A&M University*, College Station, TX, February 2023.

42. "Modeling and Control of Integrated Thermal-Electric Energy Systems for Grid Resilience," *2022 CIE Technical Symposium*, Richardson, TX, September 24th, 2022.

41. "Learning-Enabled Sustainable and Resilient Energy Systems," *University of Houston*, Houston, TX, September 2022.

40. "Federated Learning and Edge Computing Enabled Local Energy Markets," *2022 IEEE Power & Energy Society General Meeting*, Denver, CO, July 17-21, 2022.

39. "Multi-Timescale Nuclear-Renewable Hybrid Energy Systems Operations to Improve Electricity System Resilience, Reliability, and Economic Efficiency," *DOE Office of Nuclear Energy Integrated Energy Systems (IES) Program*, Idaho National Laboratory, July 6-8, 2022.

38. "Learning-Enabled Sustainable and Resilient Energy Systems," *University of Maryland*, College Park, MD, March 2022.

37. "Multi-Timescale Nuclear-Renewable Hybrid Energy Systems Operations to Improve Electricity System Resilience, Reliability, and Economic Efficiency," *INFORMS 2021 Annual Meeting*, In Person (Anaheim, CA) & Virtual, October 24-27, 2021.

36. "Multi-Timescale Nuclear-Renewable Hybrid Energy Systems Operations to Improve Electricity System Resilience, Reliability, and Economic Efficiency," *Big Ideas for USA/Mexico Border Prosperity: On Sustainable Manufacturing*, In Person (University of Texas at El Paso and the Universidad Autónoma de Ciudad Juárez in Mexico) & Virtual, September 23-24, 2021.

35. "Resilient Distribution Networks Considering Mobile Marine Microgrids: A Synergistic Network Approach," *Microgrid 2020 Global Conference*, Virtual, November 17-19, 2020.

34. "Coordinated Ramping Product and Regulation Reserve Procurements in CAISO and MISO Using Multi-scale Probabilistic Solar Power Forecasts (pro2r)," *INFORMS 2020 Annual Meeting*, Virtual, November 7-13, 2020.

33. "Data-Driven Modeling, Design, and Optimization of Next Generation Energy Systems," *The University of Texas at Austin*, Austin, TX, March 2020.

32. "Next Generation Energy Systems Modeling, Simulation, and Optimization," *University of California San Diego*, La Jolla, CA, January 2020.

31. "Machine Learning-based Short-term Load and Renewable Forecasting," *The EPRI 2019 Artificial Neural Network Short Term Load Forecaster (ANNSTLF) Users' Group Meeting*, San Antonio, TX, November 6-7, 2019.

30. "Physics/Data-driven Synergistic Approaches to Complex Interconnected Network Design and Operation," *Midwest Research Summit: Future Network*, Dallas, TX, May 2-3, 2019.

29. "Panel Session on Breakthrough Research Commercialization," *First Earth Entrepreneurship Forum*, Richardson, TX, April 22, 2019.

28. "Big Data Analytics for Renewable Energy Grid Integration," *IEEE Metrocon 2018*, Hurst, TX, November 7, 2018.

27. "Big Data Analytics for Renewable Energy Grid Integration," *UT Dallas ASME Student Section*, Richardson, TX, September 13, 2018.

26. "Data-Driven Multi-Model Blending for Renewable Energy Forecasting," *Huazhong University of Science and Technology*, Wuhan, China, October 2017.

25. "Data-Driven Multi-Model Blending for Renewable Energy Forecasting," *Wuhan University*, Wuhan, China, October 2017.

24. "Design and Optimization of Battery Thermal Management System for Electric Vehicles," DFMLC Special Invited Session: Lightning Talks on the Sustainable Design Frontier, *ASME 2017 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Cleveland, Ohio, August 2017.

23. "Big Data-Driven Multi-Model Blending for Renewable Energy Forecasting," Panel Discussion: Big Data Analytics for Power Systems, *9th Annual IEEE Green Technologies Conference*, Denver, CO, March 2017.

22. "Data-Driven Multi-Model Blending for Renewable Energy Forecasting," *Dalian University of Technology*, Dalian, China, December 2016.

21. "Data-Driven Multi-Model Blending for Renewable Energy Forecasting," *Tsinghua University*, Beijing, China, December 2016.

20. "Data-Driven Multi-Model Blending for Renewable Energy Forecasting," *North China Electric Power University*, Beijing, China, December 2016.

19. "Data-Driven Multi-Model Blending for Renewable Energy Forecasting," *University of Texas at Dallas*, Richardson, TX, November 2016.

18. "Data-Driven Multi-Model Blending for Renewable Energy Forecasting," *Cork Institute of Technology*, Cork, Ireland, August 2016.

17. "Hybrid and Uncertainty-based Surrogate Modeling for Complex Engineering Systems," *Dalian University of Technology*, Dalian, China, December 2015.

16. "Wind Energy Systems Design and Optimization Under Uncertainty," *Dalian University of Technology*, Dalian, China, December 2015.

15. "Renewable Energy Systems Design and Optimization Under Uncertainty," *Columbia University*, New York City, New York, August 2015.

14. "The WIND and SIND Toolkits: Wind and Solar Data for the Next Generation of Renewable Integration Studies," *IEEE Power & Energy Society General Meeting Young Professional Panel Session*, Denver, Colorado, July 26-30, 2015.

13. "Renewable Energy Systems Design and Optimization Under Uncertainty," *University of Texas at Dallas*, Dallas, TX, May 2015.

12. "Modeling, Analysis, and Optimization of Complex Energy Systems Under Uncertainty," *University of Houston*, Houston, TX, April 2015.

11. "Renewable Energy Systems Design and Optimization Under Uncertainty," *Illinois Institute of Technology*, Chicago, IL, March 2015.

10. "Modeling, Analysis, and Optimization of Complex Energy Systems Under Uncertainty," *University of Alberta*, Edmonton, Alberta, Canada, February 2015.

9. "Modeling, Analysis, and Optimization of Complex Energy Systems Under Uncertainty," *GE Energy Management*, Schenectady, NY, August 2014.

8. "Hybrid and Uncertainty-based Surrogate Modeling for Complex Engineering Systems," *GE Global Research*, Niskayuna, NY, July 2014.

7. "Modeling, Analysis, and Optimization of Complex Energy Systems for Smart Grid," *Binghamton University*, Binghamton, NY, April 2014.

6. "Hybrid and Uncertainty-based Surrogate Modeling for Energy Systems Engineering," *University of Akron*, Akron, OH, February 2014.

5. "Big Data-Driven Modeling, Analysis, and Optimization of Complex Energy Systems Under Uncertainty," *Iowa State University*, Ames, IA, February 2014.

4. "Integrative Modeling, Design and Optimization of Energy Systems," *University of Dayton*, Dayton, OH, February 2014.

3. "Integrative Modeling, Design and Optimization of Energy Systems," *Pennsylvania State University*, University Park, PA, November 2013.

2. "Economic Analysis of Improved Short-Term Wind Forecasting in ERCOT," *Symposium on Frontiers of Fluid Dynamics - A Legacy*, San Juan, Puerto Rico, November 2013.

1. "Integrative Modeling, Design and Optimization of Wind Farms with Comprehensive Wind Resource Assessment," *National Renewable Energy Laboratory (NREL)*, Golden, CO, October 2012.

Abstracts, Presentations and Posters

57. *Badakhshan, S., *Senemmar, *Jacob, R. and **Zhang, J.**, "Ship-to-Grid Solutions for Sustainability and Energy Resilience of Islands and Coastal Communities", *Second U.S.-Africa Frontiers of Science, Engineering, and Medicine Symposium*, Rabat, Morocco, January 16-18, 2024.

56. Matutes, J., Li, H. and **Zhang, J.**, "Techno-Economic Analysis of Hybrid Offshore Wind and Hydrogen Systems in Northeastern US", *76th Annual Meeting of the Division of Fluid Dynamics*, Washington, DC, November 19-21, 2023.

55. *Li, H. and **Zhang, J.**, "Economic Feasibility and Decarbonization Potential of Hybrid Wind and Hydrogen Systems in Texas", *North American Wind Energy Academy (NAWEA) / WindTech 2023 Conference*, Denver, CO, Oct. 30–Nov. 1, 2023.

54. *Jacob, R. and **Zhang, J.**, "Distribution Network Operation with Integrated Energy Systems: Modeling and Control Framework", *IEEE Power & Energy Society General Meeting*, Orlando, FL, July 16–20, 2023.

53. *Rahman, J. and **Zhang, J.**, "Steady-state Multi-timescale Modeling and Operation of Small Modular Reactors", *IEEE Power & Energy Society General Meeting*, Orlando, FL, July 16–20, 2023.

52. *Badakhshan, S., *Jacob, R. and **Zhang, J.**, "Enhancing Grid Resilience Through Intentional Islanding by Reinforcement Learning on Graphs", *IEEE Power & Energy Society General Meeting*, Orlando, FL, July 16–20, 2023.

51. *Li, H. and **Zhang, J.**, "Assessing The Economic Feasibility and Decarbonization Potential of Wind Energy-based Hydrogen Production in Texas", *Wind Energy Science Conference*, Glasgow, United Kingdom, May 23–26, 2023.

50. *Wang, J., *Jacob, R. and **Zhang, J.**, "Reinforcement Learning based Control of Integrated Energy Systems using ModelicaGym", *North American Modelica Conference*, Richardson, TX, October 26–28, 2022.

49. *Jacob, R. and **Zhang, J.**, "Modeling and Control of Nuclear-Renewable Integrated Energy Systems for Electricity and Hydrogen Production", *North American Modelica Conference*, Richardson, TX, October 26–28, 2022.

48. Li, B., Hobbs, B., **Zhang, J.** and Mosier, T., "Use Probabilistic Forecasts in Reliable and Economic Electricity Market Scheduling and Operations," *INFORMS 2022 Annual Meeting*, Indianapolis, IN, October 16-19, 2022.

47. *Jacob, R. A., Chen, Y., Gel, Y. R., **Zhang, J.** and Poor, H. V., "HOT-Nets: Higher-Order Topological Neural Networks on Power Distribution Systems," *2022 Joint Statistical Meetings*, Washington, DC, August 6 - 11, 2022. (**JSM Best Student Paper Award**)

46. *Jacob, R., Chen, Y., Gel, Y. R. and **Zhang, J.**, "Learning over Graphs for Resilient Operation of Active Distribution Networks", *IEEE Power & Energy Society General Meeting*, Denver, CO, July 17–21, 2022.

45. *Rahman, J. and **Zhang, J.**, "Multi-timescale Operations of Nuclear-Renewable Integrated Energy System", *IEEE Power & Energy Society General Meeting*, Denver, CO, July 17–21, 2022.

44. *Li, H., *Rahman, J. and **Zhang, J.**, "Co-located Wind Farm and Hydrogen Plant Energy System Study," *WindSTAR Industrial Advisory Board Meeting*, University of Massachusetts Lowell, Lowell, MA, June 15-16, 2022.

43. Hobbs, B., Krishnan, V., **Zhang, J.**, Hamann, H., Siebenschuh, C., Zhang, R., †Li, B., *He, L., Krad, I., Spyrou, E., Fang, X., Wang, Y. and Zhang, S., "Using Probabilistic Solar Forecasts for Operating Reserves Requirements," *2022 Meteorology & Market Design for Grid Services Workshop*, Denver, CO, June 6-9, 2022.

42. Hobbs, B., Krishnan, V., **Zhang, J.**, Hamann, H., Siebenschuh, C., Zhang, R., †Li, B., *He, L., Krad, I., Spyrou, E., Fang, X., Wang, Y. and Zhang, S., "Using Solar Data for Operating Reserves Needs Forecasting," *Addressing Solar Data Challenges for Utilities and Power Systems*, Denver, CO, June 1-2, 2022.

41. *Badakhsahn, S., *Senemmar, S. and **Zhang, J.**, "Optimal Operation of Automated Battery Ships For Transporting Offshore Wind Electricity," *WindSTAR Industrial Advisory Board Meeting*, University of Texas at Dallas, Richardson, TX, January 26-27, 2022.

40. *He, L. and **Zhang, J.**, "Energy Sharing in Local Electricity Market with Distributed Solar Energy," *UTD Mechanical Engineering Graduate Poster Competition*, October 14-15, 2021.

39. *Senemmar, S. and **Zhang, J.**, " Deep Learning-based Framework for Energy Management in Future Navy Ships," *UTD Mechanical Engineering Graduate Poster Competition*, October 14-15, 2021.

38. **Zhang, J.**, Krishnan, V., Hobbs, B., Siebenschuh, C., Krad, I., †Li, B. and Edwards, P., "Coordinated Ramping Product and Regulation Reserve Procurements in CAISO and MISO using Multi-Scale Probabilistic Solar Power Forecasts (Pro2R)," *FERC Technical Conference on Increasing Market and Planning Efficiency through Improved Software*, Virtual, June 22-24, 2021.

37. *Senemmar, S., Dabbaghjamanesh, M. and ‡**Zhang, J.**, "Resilient Distribution Networks Considering Mobile Marine Microgrids: A Synergistic Network Approach," *Defense Tech-Connect Virtual Innovation Summit*, Virtual, November 17-19, 2020.

36. Hobbs, B., Spyrou, E., Krishnan, V., Xu, Q., **Zhang, J.**, †Li, B., Zhang, R. and Hamann, H., "Coordinated Ramping Product Procurement using Multi-Scale Probabilistic Solar Power Forecasts," *11th Annual FERC Software Conference*, June 23-25, 2020 (Online).

35. Spyrou, E., Krishnan, V., Hobbs, B., Xu, Q., **Zhang, J.**, †Li, B., Zhang, R. and Hamann, H., "The Value of Probabilistic Forecasts For Sizing Flexible Ramping Products: A CAISO Case Study," *INFORMS Annual Meeting*, Seattle, WA, October 20-23, 2019.

34. Krishnan, V., Hobbs, B., Hamann, H., †Li, B. and **Zhang, J.**, "Coordinated Ramping Product and Regulation Reserve Procurements Using Probabilistic Solar Power Forecasts," *2019 Meteorology & Market Design for Grid Services Workshop*, Denver, CO, June 05, 2019.

33. Krishnan, V., Hobbs, B., Hamann, H., †Li, B. and **Zhang, J.**, "Coordinated Ramping Product and Regulation Reserve Procurements Using Probabilistic Solar Power Forecasts," emphESIG Spring Technical Workshop – System Operations and Market Design, Albuquerque, NM, March 19, 2019.

32. †Li, B. and **Zhang, J.**, "Wind-Friendly Flexible Ramping Product Design in Multi-Timescale Power System Operations," *WindSTAR Industrial Advisory Board Meeting*, University of Texas at Dallas, Richardson, TX, January 30, 2019.

31. **Zhang, J.**, *Sun, M. and *Feng, C., "Probabilistic Short-term Wind Forecasting Based on Pinball Loss Optimization," *38th International Symposium on Forecasting*, Boulder, CO, June 17-20, 2018.

30. *Liu, Y. and **Zhang, J.**, "Air-Based Battery Thermal Management System for Electric Vehicles: Experimental Study and Optimization," *2018 Texas Systems Day*, University of Texas at Dallas, Richardson, TX, April 6, 2018.

29. *Chang, C. and **Zhang, J.**, "Data-Driven Distributed PV Sharing in Microgrid with Dynamic Electricity Prices," *2018 Texas Systems Day*, University of Texas at Dallas, Richardson, TX, April 6, 2018.

28. *Dutta Roy, S. and **Zhang, J.**, "Grid Scale Energy Storage Sharing Among Wind Farms," *2018 Texas Systems Day*, University of Texas at Dallas, Richardson, TX, April 6, 2018.

27. *Sun, M., *Feng, C., **Zhang, J.**, Chartan, E. and Hodge, B.-M., "Probabilistic Short-term Wind Forecasting Based on Pinball Loss Optimization," *WindSTAR Industrial Advisory Board Meeting*, University of Texas at Dallas, Richardson, TX, January 31, 2018.

26. *Liu, Y., Wang, X. and **Zhang, J.**, "An Experimental Parametric Study of Air-Based Battery Thermal Management System for Electric Vehicles," *The Bluebonnet Symposium on Thermal-Fluid Sciences*, Southern Methodist University, Dallas, TX, April 21, 2017.

25. *Feng, C. and **Zhang, J.**, "A Data-Driven Multi-Model Methodology with Deep Feature Selection for Short-Term Wind Forecasting," *WindSTAR Industrial Advisory Board Meeting*, University of Texas at Dallas, Richardson, TX, January 18-19, 2017.

24. *Sun, M. and **Zhang, J.**, "Grid Optimization of Shared Energy Storage Among Wind Farms Based on Wind Forecasting," *WindSTAR Industrial Advisory Board Meeting*, University of Texas at Dallas, Richardson, TX, January 18-19, 2017.

23. **Zhang, J.**, "Baseline and Target Solar Power Forecasting," *UVIG 2016 Forecasting Workshop*, Denver, CO, September 27-29, 2016.

22. *Feng, C. and **Zhang, J.**, "A Data-driven Multi-model and Multidisciplinary Short-term Wind Power Forecasting Framework," *WINDFARMS 2016: International Colloquium on Wind Power Plants: Interaction, Control and Integration*, University of Texas at Dallas, Richardson, TX, May 23-25, 2016.

21. *Cui, M., **Zhang, J.**, and Hodge, B.M., "Wind Power Ramping Products for Increasing Power System Flexibility," *WINDFARMS 2016: International Colloquium on Wind Power Plants: Interaction, Control and Integration*, University of Texas at Dallas, Richardson, TX, May 23-25, 2016.

20. **Zhang, J.**, "An Optimized Swinging Door Algorithm for Wind Power Ramp Events Detection," *WindSTAR Industrial Advisory Board Meeting*, University of Texas at Dallas, Richardson, TX, February 3-4, 2016.

19. *Cui, M., **Zhang, J.**, Florita, A. and Hodge, B.-M., "An Optimized Swinging Door Algorithm for Identifying Wind Ramping Events," *ASME 2015 9th International Conference on Energy Sustainability*, San Diego, CA, June 28 - July 02, 2015.

18. *Cheung, W., **Zhang, J.**, Florita, A. and Hodge, B.-M., "Statistical Characterization and Sensitivity Analysis of Solar Forecasts," *DOE Science Undergraduate Laboratory Internships Program (SULI)*, National Renewable Energy Laboratory, Golden, CO, May 14, 2015.

17. **Zhang, J.** and Hodge, B.-M., "Forecastability as a Design Criterion in Wind Resource Assessment," *The 3rd Wind Energy Systems Engineering Workshop*, University of Colorado at Boulder, Boulder, Colorado, January 14-15, 2015.

16. Wu, H., Ela, E., **Zhang, J.**, Florita, A., Hodge, B.-M. and Krad, I., "Stochastic Modeling at Multiple Timescales," *FERC Technical Conference on Increasing Real-Time and Day-Ahead Market Efficiency Through Improved Software*, Washington, DC, June 23-25, 2014.

15. **Zhang, J.**, Hodge, B.-M., Florita, A., Lu, S., Hamann, H. F. and Banunarayanan, V., "Metrics Development for Evaluating the Accuracy of Solar Power Forecasting," *94th American Meteorological Society Annual Meeting*, Atlanta, Georgia, February 2-6, 2014.

14. Lu, S., Lenchner, J., Tesauro, G. J., Corcoran, C. M., Marianno, F. J., **Zhang, J.**, Hodge, B.-M., Campos, E. and Hamann, H. F., "A Multi-Scale Solar Energy Forecast Platform Based on Machine-Learned Adaptive Combination of Expert Systems," *94th American Meteorological Society Annual Meeting*, Atlanta, Georgia, February 2-6, 2014.

13. Freedman, J. et al., "The Wind Forecast Improvement Project: Final Results From The Southern Study Region," *94th American Meteorological Society Annual Meeting*, Atlanta, Georgia, February 2-6, 2014.

12. Brockway, A., Banunarayanan, V., Marquis, M., Haupt, S. E., Brown, B., Fowler, T., Jensen, T., Hamann, H., Lu, S., Hodge, B.-M., **Zhang, J.** and Florita, A., "Creating a Standard Set of Metrics to Assess Accuracy of Solar Forecasts: Preliminary Results," *American Geophysical Union's 46th annual Fall Meeting*, San Francisco, California, December 9-13, 2013.

11. Florita, A., **Zhang, J.** and Hodge, B.-M., "The Value of Improved Wind Power Forecasting in the Western Interconnection," *EWEA Technology Workshop: Wind Power Forecasting*, Rotterdam, The Netherlands, December 3-4, 2013.

10. **Zhang, J.**, Florita, A. and Hodge, B.-M., "Joint Probability and Correlation Analysis of Wind and Solar Power Forecast Errors in the Western Interconnection," *2013 AIChE Annual Meeting*, San Francisco, CA, November 3-8, 2013.

9. Freedman, J. et al., "The Wind Forecasting Improvement Project (WFIP): Lessons Learned from the Southern Study Area," *AWEA WINDPOWER 2013 Conference & Exhibition*, Chicago, Illinois, May 5-8, 2013.

8. **Zhang, J.**, *The 2nd NREL Wind Energy Systems Engineering Workshop*, NREL National Wind Technology Center, Broomfield, Colorado, January 29-30, 2013.

7. Messac, A., Chowdhury, S., **Zhang, J.** and Notaro, S., "Wind Farm Layout Optimization and Cost of Energy," *National Wind Resource Center (NWRC) Symposium on Wind Farms' Underperformance and Partnerships: Building Partnerships to Meet the 2030 Grand Challenge*, Texas Tech University, Lubbock, TX, March 28-29, 2012.

6. Messac, A., Chowdhury, S., **Zhang, J.** and Castillo, L., "Exploring and Quantifying the Role of Resource Uncertainties in Wind Project Planning," *1000 Island Energy Research Forum*, Alexandria Bay, New York, November 11-13, 2011.

5. **Zhang, J.**, Messac, A., Chowdhury, S. and Castillo, L., "Wind Power Potential and Economic Model for Wind Farms," *NSF Workshop on Wind Energy & Turbulence*, Universidad del Turabo, Caguas, Puerto Rico, February 24-26, 2011.

4. Chowdhury, S., Messac, A., **Zhang, J.** and Castillo, L., "Influence of Global Parameters on Wind Farm Design," *NSF Workshop on Wind Energy & Turbulence*, Universidad del Turabo, Caguas, Puerto Rico, February 24-26, 2011.

3. Chowdhury, S., Messac, A., Castillo, L. and **Zhang, J.**, "A Design Platform for Optimal Wind Farm Planning," *NSF Workshop on Wind Energy & Turbulence*, Universidad del Turabo, Caguas, Puerto Rico, February 24-26, 2011.

2. Messac, A., **Zhang, J.**, Chowdhury, S. and Castillo, L., "Global Optimization, Uncertainties & Economic Model for Wind Energy Array," *NSF Workshop on Wind Energy & Turbulence*, Universidad del Turabo, Caguas, Puerto Rico, February 24-26, 2011.

1. Castillo, L., Meneveau, C., Cal, R., Lebron, J., Kang, H., Messac, A., **Zhang, J.** and Chowdhury, S., "The Importance of Turbulence in Wind Energy," *Advanced Energy 2010*, New York, NY, November 8-9, 2010.

Teaching Experience

University of Texas at Dallas, Richardson, TX

- MECH 4365: Energy Analytics, Spring 2019-2021, 2024
- MECH 6318: Engineering Optimization, Fall 2017-2023
- MECH 6342: Renewable Energy and Grid Integration, Spring 2020-2021
- MECH 6342: Renewable Energy Systems Design and Optimization, Spring 2017-2019
- MECH 6318/SYSM 6305: Optimization Theory and Practice, Fall 2016
- MECH 1208: Introduction to Mechanical Engineering II, Spring 2016
- ENGY 3300: Introduction to Energy Technology, Fall 2015, Spring 2016 (Guest Lecturer)

Syracuse University, Syracuse, NY

- MAE 400: Introduction to Practical Design Optimization, Fall 2012 (Guest Lecturer)

Service

Service to University/Department

- **Transportation Research Thrust Co-Lead**, Erik Jonsson School of Engineering & Computer Science, University of Texas at Dallas, 2023 - 2025.
- **Faculty Search Committee Member**, Department of Mechanical Engineering, University of Texas at Dallas, 2019 - 2020; 2022 - 2023; 2023-2024.
- **Ad Hoc Committee Member**, Tenure and Promotion, University of Texas at Dallas, 2022 - 2024.
- **Research Cluster Committee**, Department of Mechanical Engineering, University of Texas at Dallas, 2022 - 2023.
- **Peer Review Committee**, Department of Mechanical Engineering, University of Texas at Dallas, 2021 - 2022.
- **Bylaws Committee**, Department of Mechanical Engineering, University of Texas at Dallas, 2021 - 2022.
- **ADR-RAC Research Advisory Committee Member**, Erik Jonsson School of Engineering and Computer Science, University of Texas at Dallas, 2020 - 2021.
- **Graduate Standing Committee Member**, Department of Mechanical Engineering, University of Texas at Dallas, 2015 - 2020.
- **Manufacturing & Design Innovation (MDI) Standing Committee Member**, Department of Mechanical Engineering, University of Texas at Dallas, 2015 - Present.

Professional Societies: Technical Committee

- **Power Systems Economics Subcommittee Member**, Power & Energy Society (PES), Institute of Electrical and Electronics Engineers (IEEE), 2017 - 2024.
- **Big Data & Analytics for Power Systems Subcommittee Member**, Power & Energy Society (PES), Institute of Electrical and Electronics Engineers (IEEE), 2017 - 2024.
- **Multidisciplinary Design Optimization Technical Committee (MDO TC) Member**, American Institute of Aeronautics and Astronautics (AIAA), 2015 - 2024.
- **Solar Energy Division Technical Committee (SED TC) Member**, American Society of Mechanical Engineers (ASME), 2014 - 2017.

- **R&D Industry Board Member**, National Wind Resource Center, Texas Tech University, Lubbock, TX, USA, 2013 - 2014.

Conference Session Chair and Organizer

- **Organizing Committee Member**, 25th International Conference on Engineering Design 2025 (ICED25), Dallas, Texas, USA, August 11-14, 2025.
- **Session Chair, Organizer, and Review Coordinator**, ASME 2023 International Design Engineering Technical Conferences (IDETC), "DAC-6 Design and Optimization of Sustainable Energy Systems", Boston, MA, August 20-23, 2023.
- **Session Chair, Organizer, and Review Coordinator**, ASME 2022 International Design Engineering Technical Conferences (IDETC), "DAC-6 Design and Optimization of Sustainable Energy Systems", St. Louis, Missouri, August 14-17, 2022.
- **Session Chair**, IEEE Kansas Power and Energy Conference (KPEC), "Session A1: Cyber-Security in Power Grid-1", Manhattan, Kansas, April 25 - 26, 2022.
- **Session Chair, Organizer, and Review Coordinator**, ASME 2021 International Design Engineering Technical Conferences (IDETC), "DAC-6 Design and Optimization of Sustainable Energy Systems", Virtual, August 17-19, 2021.
- **Session Chair, Organizer, and Review Coordinator**, ASME 2020 International Design Engineering Technical Conferences (IDETC), "DAC-3 Data-Driven Design" and "DAC-5 Design and Optimization of Sustainable Energy Systems", Virtual, August 16-19, 2020.
- **Session Chair, Organizer, and Review Coordinator**, ASME 2019 International Design Engineering Technical Conferences (IDETC), "DAC-3 Data-Driven Design" and "DAC-5 Design and Optimization of Sustainable Energy Systems", Anaheim, CA, August 18-21, 2019.
- **Session Chair, Organizer, and Review Coordinator**, ASME 2018 International Design Engineering Technical Conferences (IDETC), "DAC-3 Data-Driven Design" and "DAC-5 Design and Optimization of Sustainable Energy Systems", Quebec City, Canada, August 26-29, 2018.
- **Wind Energy Systems and Technologies Track Organizer**, ASME Energy Sustainability Conference, Lake Buena Vista, FL, June 24 - June 28, 2018.
- **Session Chair, Organizer, and Review Coordinator**, ASME 2017 International Design Engineering Technical Conferences (IDETC), "DAC-3 Data-Driven Design" and "DAC-5 Design and Optimization of Sustainable Energy Systems", Cleveland, Ohio, August 6-9, 2017.
- **Wind Energy Systems and Technologies Track Organizer**, ASME 2017 11th International Conference on Energy Sustainability, Charlotte, NC, June 26 - June 30, 2017.
- **Session Chair**, AIAA SciTech 2017, "MDO-11. Aircraft Design Optimization III", Grapevine, Texas, January 9-13, 2017.
- **Session Chair**, North American Power Symposium 2016 (NAPS 2016), "Intelligent Grid", Denver, CO, September 18-20, 2016.
- **Session Chair, Organizer, and Review Coordinator**, ASME 2016 International Design Engineering Technical Conferences (IDETC), "DAC-3 Data-Driven Design", "DAC-5 Design and Optimization of Sustainable Energy Systems", "DAC-14 Metamodel-Based Design Optimization", and "DAC-19 Simulation-Based Design Under Uncertainty", Charlotte, NC, August 22-24, 2016.
- **Wind Energy Systems and Technologies Track Organizer**, ASME 2016 10th International Conference on Energy Sustainability, Charlotte, NC, June 26 - June 30, 2016.
- **Conference Technical Committee Chair**, 3rd International Conference on Mechanics and Mechatronics Research (ICMMR 2016), Chongqing, China, June 15-17, 2016.

- **Session Chair, Organizer, and Review Coordinator**, ASME 2015 International Design Engineering Technical Conferences (IDETC), "DAC-4 Design and Optimization of Sustainable Energy Systems" and "DAC-10 Data-Driven Design", Boston, MA, August 2-5, 2015.
- **Wind Energy Systems and Technologies Track Organizer**, ASME 2015 9th International Conference on Energy Sustainability, San Diego, CA, June 28 - July 2, 2015.
- **Session Chair, Organizer, and Review Coordinator**, ASME 2014 International Mechanical Engineering Congress & Exposition (IMECE), "Wind Energy Theory and Applications: Wind Farm Optimization", Montreal, Canada, November 14-20, 2014.
- **Session Chair, Organizer and Review Coordinator**, ASME 2014 International Design Engineering Technical Conferences (IDETC), "DAC-4 Design and Optimization of Sustainable Energy Systems" and "DAC-10 Data-Driven Design", Buffalo, NY, August 17-20, 2014.
- **Wind Energy Systems and Technologies Track Organizer**, ASME 2014 8th International Conference on Energy Sustainability, Boston, MA, June 30 - July 2, 2014.
- **Minisymposia Organizer**, International Conference on Engineering and Applied Sciences Optimization (OPTI 2014), "Minisymposium 13: Design and Optimization of Emerging Sustainable Energy Systems", Kos Island, Greece, June 4-6, 2014.
- **Session Chair, Organizer, and Review Coordinator**, ASME 2013 International Design Engineering Technical Conferences (IDETC), "DAC-4 Design and Optimization of Sustainable Energy Systems", Portland, Oregon, August 4-7, 2013.
- **International Scientific Committee and Session organizer**, 10th World Congress on Structural and Multidisciplinary Optimization (WCSMO-10), Orlando, FL, May 19-24, 2013.
- **Session Co-chair, Organizer, and Review Coordinator**, ASME 2012 International Design Engineering Technical Conferences (IDETC), "Session DAC-11: Design and Optimization of Sustainable Wind Energy Systems", Chicago, IL, August 12-15, 2012.
- **Session Organizer and Review Coordinator**, ASME 2011 International Design Engineering Technical Conferences (IDETC), "DAC-12 Design and Optimization of Sustainable Energy Systems", Washington, DC, August 28-31, 2011.

Professional Memberships

- **Senior Member** Institute of Electrical and Electronics Engineers (IEEE)
- **Senior Member** American Institute of Aeronautics and Astronautics (AIAA)
- **Member** American Society of Mechanical Engineering (ASME)
- **Member** IEEE Power & Energy Society
- **Member** International Society for Structural and Multidisciplinary Optimization (ISSMO)

Student Supervision and Visiting Scholar

Ph.D. Students

14. **Ali Mahboub Rad**, "Research on Power System Operation and Electricity Market," Electrical Engineering, The University of Texas at Dallas, January 2024 - Present.
13. **Fazlur Rahman Bin Karim**, "Research on Integrated Energy Systems," Electrical Engineering, The University of Texas at Dallas, January 2024 - Present.
12. **Damilola Rebecca Olojede**, "Research on Distribution Network Resilience with Topological Neural Networks," Mechanical Engineering, The University of Texas at Dallas, August 2022 - Present.
11. **Jingyi Yan**, "Research on Solar Forecasting," Mechanical Engineering, The University of Texas at Dallas, August 2022 - Present.

10. **Jingbo Wang**, "Integrated Energy Systems Research," Mechanical Engineering, The University of Texas at Dallas, January 2022 - Present.

9. **Honglin Li**, "Integrated Energy Systems Research," Mechanical Engineering, The University of Texas at Dallas, August 2021 - Present.

8. **Sobhan Badakhshan**, "Shipboard Power System Research," Electrical Engineering, The University of Texas at Dallas, August 2021 - Present.

7. **Soroush Senemmar**, "Shipboard Power System Research," Electrical Engineering, The University of Texas at Dallas, January 2020 - Present.

6. **Roshni Anna Jacob**, "Distribution Network Reconfiguration Research," Electrical Engineering, The University of Texas at Dallas, August 2018 - Present.

5. **Dr. Jubeyer Rahman**, Dissertation Title: "Multi-timescale Operation of Nuclear-Renewable Integrated Energy Systems," Electrical Engineering, The University of Texas at Dallas, Graduation Date: December 2023. (Current Position: Engineer at GE Digital)

4. **Dr. Li He**, Dissertation Title: "Energy Trading in Local Electricity Market with Distributed Energy Resources," Electrical Engineering, The University of Texas at Dallas, Graduation Date: August 2022. (Current Position: Research Engineer at Pacific Northwest National Laboratory)

3. **Dr. Yuanzhi Liu**, Dissertation Title: "Battery Thermal Management System for Electric Vehicles: Design, Optimization, and Control," Mechanical Engineering, The University of Texas at Dallas, Graduation Date: December 2021. (Current Position: Battery Algorithm Engineer at Apple)

2. **Dr. Mucun Sun**, Dissertation Title: "Probabilistic Renewable Energy Forecasting by Considering Spatial-Temporal Correlation," Mechanical Engineering, The University of Texas at Dallas, Graduation Date: August 2020. (Current Position: Research Engineer at Idaho National Laboratory)

1. **Dr. Cong Feng**, Dissertation Title: "Machine Learning-based Renewable and Load Forecasting In Power and Energy Systems," Mechanical Engineering, The University of Texas at Dallas, Graduation Date: May 2020. (Current Position: Research Engineer at NREL)

Postdoctoral Researchers

3. **Dr. Harshal Kaushik**, "Network Optimization," Mechanical Engineering, University of Texas at Dallas, October 2023 - Present.

2. **Dr. Binghui Li**, "Power Systems Operation and Optimization," Mechanical Engineering, University of Texas at Dallas, January 2018 - August 2020. Current Position: Research Engineer at Idaho National Laboratory)

1. **Dr. Mingjian Cui**, "Flexible Ramping Products and Electricity Market," Mechanical Engineering, University of Texas at Dallas, March 2016 - October 2017. (Current Position: Professor at Tianjin University, China)

Visiting Scholars and Students

4. **Yongtian Jia**, Visiting Ph.D. student from Wuhan University, "Renewable Integration Research," Mechanical Engineering, The University of Texas at Dallas, December 2018 - December 2019.

3. **Dr. Hualiang Fang**, Visiting Professor from Wuhan University, "Power System Research," Mechanical Engineering, The University of Texas at Dallas, January 2019 - April 2019.

2. **Xiaobang Wang**, Visiting Ph.D. student from Dalian University of Technology, "Multidisciplinary Design Optimization Research," Mechanical Engineering, The University of Texas at Dallas, August 2016 - September 2017.

1. **Dr. Mao Li**, Visiting scientist from Beijing Institute of Aerospace Testing Technology, "Electric Vehicle Battery Research," Mechanical Engineering, University of Texas at Dallas, February 2016 - January 2017.

Master Students (Non-Thesis)

12. **Stephen Noby**, "Integrated Thermal-Electric Energy Management of All-Electric Ship," Mechanical Engineering, The University of Texas at Dallas, November 2022 - January 2024.

11. **Petro John**, "Control co-design of grid-scale battery storage system," Mechanical Engineering, The University of Texas at Dallas, December 2020 - August 2021.

10. **Jing Xiong**, "Smart Meter Data Analytics," Computer Science, The University of Texas at Dallas, September 2018 - May 2019.

9. **Xin Li**, "Big Data Analytics and Load Forecasting," Computer Engineering, The University of Texas at Dallas, September 2017 - December 2018.

8. **Yaseen Umar Khan**, "Blockchain in PV Sharing Research," Electrical Engineering, The University of Texas at Dallas, January 2017 - December 2018.

7. **Chih-Lun Chang**, "Sharing Economy in Power Systems Research," Mechanical Engineering, The University of Texas at Dallas, August 2016 - August 2018.

6. **Samragni Dutta Roy**, "Power Systems Production Modeling and Renewable Integration Research," Electrical Engineering, The University of Texas at Dallas, January 2017 - May 2018.

5. **Zhenke Wang**, "Renewable Ramp Forecasting Research," Mechanical Engineering, The University of Texas at Dallas, August 2015 - May 2017.

4. **Cong Feng**, "Wind and Solar Forecasting Research," Mechanical Engineering, The University of Texas at Dallas, August 2015 - May 2017.

3. **Ziyan Zou**, "Electric Vehicle Battery Lifetime Analysis Research," Electrical Engineering, The University of Texas at Dallas, August 2016 - January 2017.

2. **Chandra Varma Ponnurangam**, "Offshore Wind Farm Optimization Research," Mechanical Engineering, The University of Texas at Dallas, January 2016 - December 2016.

1. **Yulin Yang**, "Short-term Solar Forecasting Based on Sky Image Analysis," Mechanical Engineering, The University of Texas at Dallas, August 2015 - May 2016.

Undergraduate Students

8. **Zaina Anarwala**, "Integrated energy systems (offshore wind energy and hydrogen)," Industrial and Enterprise Systems Engineering, University of Illinois at Urbana–Champaign , May 2024 - July 2024. (Through UTD Research Experience for Undergraduates (REU) in Wind Energy Systems)

7. **Joan Matutes**, "Integrated energy systems (wind energy and hydrogen)," Mechanical Engineering, University of Indianapolis, May 2023 - July 2023. (Through UTD Research Experience for Undergraduates (REU) in Wind Energy Systems)

6. **Santiago Gomez**, "Small Modular Reactor based All-Electric Ships," Mechanical Engineering, The University of Texas at Dallas, January 2023 - May 2023.

5. **Mirabella Herrera**, "Integrated energy systems (wind energy and hydrogen)," Mechanical Engineering, The University of Texas at Dallas, May 2022 - December 2022.

4. **Lucas Lillie**, "Distribution System Modeling," Mechanical Engineering, The University of Texas at Dallas, May 2018 - December 2018.

3. **Napat Dawkrajai**, "Solar Forecasting," Mechanical Engineering, The University of Texas at Dallas, May 2018 - December 2018.

2. **Siyuan Sun**, "Transactive Energy and Blockchain," Computer Engineering, The University of Texas at Dallas, May 2017 - August 2018.

1. **Meredith Lee**, "Solar Power Forecasting," Mechanical Engineering, The University of Texas at Dallas, May 2016 - August 2016.

Doctoral Committee Member

14. **Oredola Adebayo**, Ph.D. Dissertation, "Investigation of the Effect of Size and Diversity in ANN Crowds," Mechanical Engineering, The University of Texas at Dallas, Graduation Date: TBD. (Advisor: Prof. Joshua Summers).

13. **Arian Azizi**, Ph.D. Dissertation, "Medium Voltage Direct Current (MVDC) Power Cables for Wide-Body All Electric Aircraft," Electrical Engineering, The University of Texas at Dallas, Graduation Date: May 2024. (Advisor: Prof. Mona Ghassemi).

12. **Steve Paul**, Ph.D. Dissertation, "Graph-based Higher Order Learning for Complex Real-World Combinatorial Optimization Problems," Mechanical and Aerospace Engineering, University at Buffalo, Graduation Date: January 2024. (Advisor: Prof. Souma Chowdhury).

11. **Reza Bagherian Azhiri**, Ph.D. Dissertation, "EMG-Based Finger Movement Classification for Prosthetic Hand Control," Mechanical Engineering, The University of Texas at Dallas, Graduation Date: December 2022. (Advisor: Prof. Mehrdad Nourani).

10. **Hesam Nourmohamadi**, Ph.D. Dissertation, "Fault Handling for Medium-Voltage Direct-Current (MVDC) Grids," Electrical Engineering, The University of Texas at Dallas, Graduation Date: December 2022. (Advisor: Prof. Poras T. Balsara).

9. **Shulong Yao**, Ph.D. Dissertation, "Structural Design and Optimization of Sub-scale and Extreme-scale Wind Turbine Rotors," Mechanical Engineering, The University of Texas at Dallas, Graduation Date: August 2021. (Advisor: Prof. Todd Griffith).

8. **Haoliang Yu**, Ph.D. Dissertation, "Numerical Simulations of Structural and Fluid Dynamics for Aerodynamic Performance Improvement," Mechanical Engineering, The University of Texas at Dallas, Graduation Date: May 2021. (Advisor: Prof. Arif Malik).

7. **Feng Zhang**, Ph.D. Dissertation, "Investigation into Multi-Scale Contact Mechanics Behaviors in The Cold Rolling of Metal Strip and Sheet Using A Novel Stochastic Roll-Stack Modeling Approach," Mechanical Engineering, The University of Texas at Dallas, Graduation Date: December 2019. (Advisor: Prof. Arif Malik).

6. **Wenyi Wang**, Ph.D. Dissertation, "Dynamic Modeling and Model-free Real-time Optimization for Cold Climate Heat Pump Systems," Mechanical Engineering, The University of Texas at Dallas, Graduation Date: August 2019. (Advisor: Prof. Yaoyu Li).

5. **Zhuo Yang**, Ph.D. Dissertation, "Online Estimation of Lithium-ion Batteries," Electrical Engineering, The University of Texas at Dallas, Graduation Date: May 2018. (Advisor: Prof. Babak Fahimi).

4. **Mohammad Aliakbari**, Ph.D. Dissertation, "Thermal Modeling of the Human Lactating Breast," Mechanical Engineering, The University of Texas at Dallas, Graduation Date: December 2017. (Advisor: Prof. Fatemeh Hassanipour).

3. **Sarvenaz Sobhansarbandi**, Ph.D. Dissertation, "Evacuated Tube Solar Collector Integrated With Multifunctional Absorption-Storage Materials," Mechanical Engineering, The University of Texas at Dallas, Graduation Date: May 2017. (Advisor: Prof. Fatemeh Hassanipour).

2. **Conor Lynch**, Ph.D. Dissertation, "Development of A Novel Kalman Filter Bank Predictor to Schedule and Optimise The Energy Interplay Within A Fixed-Grid Connected Microgrid," Process Energy & Transport Engineering, Cork Institute of Technology, Graduation Date: January 2017. (Advisor: Prof. Michael J. O'Mahony).

1. **Xudong An**, Ph.D. Dissertation, "Analysis of Air Vortex Interaction with Porous Screens," Mechanical Engineering, The University of Texas at Dallas, Graduation Date: December 2016. (Advisor: Prof. Fatemeh Hassanipour).

At NREL: Visiting Students and Interns

8. **Mingjian Cui**, Visiting Ph.D. student from Wuhan University, "Wind and Solar Power Ramp Events Forecasting Research," National Renewable Energy Laboratory, September 2014 - August 2015.

7. **WanYin (Wendy) Cheung**, DOE Office of Science, Science Undergraduate Laboratory Internships (SULI), "Uncertainty Quantification and Propagation in Irradiance and Solar Power," National Renewable Energy Laboratory, January 2015 - August 2015.

6. **Tarek Elgindy**, Summer Intern, "Short-term solar power forecasting," National Renewable Energy Laboratory, June 2015 - August 2015.

5. **Rishabh Jain**, Summer Intern, "Characterizing Turbulence-Caused Uncertainty in Wind Power Generation," National Renewable Energy Laboratory, June 2015 - August 2015.

4. **Marc Huesch**, Summer Intern, "Spatio-Temporal Classification of Wind Power and Forecasting Regimes," National Renewable Energy Laboratory, July 2014 - September 2014.

3. **Samuel Putnam**, DOE Office of Science, Science Undergraduate Laboratory Internships (SULI), "Value of Wind Power Forecasting," National Renewable Energy Laboratory, May 2014 - August 2014.

2. **Robert Bantz**, DOE Office of Science, Science Undergraduate Laboratory Internships (SULI), "Modeling Day-ahead Load Forecast Errors in the New York Independent System Operator," National Renewable Energy Laboratory, January 2014 - May 2014.

1. **Nicholas Steckler**, DOE Office of Science, Science Undergraduate Laboratory Internships (SULI), "Analysis and Synthesis of Load Forecasting Data for Renewable Integration Studies," National Renewable Energy Laboratory, June 2013 - August 2013.

EDITORSHIP OF JOURNALS, REVIEWS – INCLUDING BOOK, RESEARCH PROPOSALS

Editorship of Journals

- **Associate Editor:** Journal of Mechanical Design, 2024 - Present.
- **Associate Editor:** Solar Energy, 2023 - Present.
- **Associate Editor:** Journal of Energy Engineering, 2023 - Present.
- **Associate Editor:** Journal of Renewable and Sustainable Energy, 2020 - 2022.
- **Guest Editor:** Special Issue on "Sector coupling power-heat-hydrogen in power system balance and flexibility management", IET Generation, Transmission & Distribution, 2024-Present.
- **Guest Editor:** Special Issue on "Advances in Design and Manufacturing for Sustainability", Journal of Mechanical Design & Journal of Manufacturing Science and Engineering, 2022-2024.
- **Guest Editor:** Special Issue on "Hybrid Renewable Energy Systems", Journal of Renewable and Sustainable Energy, 2021-2023.
- **Guest Editor:** Special Issue on Grid Integration, Solar Energy Journal, 2019-2020.

Reviews of Proposal

- **Department of Energy (DOE)**
  - DOE Office of Cybersecurity, Energy Security, and Emergency Response (CESER), 2024
  - DOE Office of Clean Energy Demonstrations, 2023.
  - DOE Office of Nuclear Energy, 2020-2024.
  - DOE Experimental Program to Stimulate Competitive Research (DOE-EPSCoR), 2018.
  - DOE Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR), 2017.
- **National Science Foundation (NSF)**
  - NSF Regional Innovation Engines, 2023
  - NSF Civil, Mechanical and Manufacturing Innovation (CMMI), 2017.
- **International**
  - Swiss National Science Foundation, 2022
  - Research Grants Council (RGC) of Hong Kong, 2022
  - Dutch Research Council (NWO) Domain Applied and Engineering Sciences (AES), 2021.
  - Nanyang Technological University Behavioural Research Office, 2016.

Reviews of Manuscript

- **Journals:** IEEE Transactions on Sustainable Energy, IEEE Transactions on Power Systems, IEEE Transactions on Smart Grid, IEEE Transactions on Control Systems Technology, Structural and Multidisciplinary Optimization, Journal of Mechanical Design, Journal of Solar Energy Engineering, AIAA Journal, Engineering Optimization, Optimization and Engineering, IEEE Access, IEEE Transactions on Instrumentation & Measurement, IEEE Transactions on Electromagnetic Compatibility, IEEE Transactions on Biomedical Engineering, IEEE Transactions on Industry Applications, IEEE Transactions on Intelligent Transportation Systems, IEEE Transactions on Systems, Man and Cybernetics: Systems, IEEE Power and Energy Technology Systems Journal, Applied Energy, Renewable Energy, Wind Energy, Solar Energy, Energy Conversion and Management, Journal of Wind Engineering & Industrial Aerodynamics, Computers & Industrial Engineering, International Journal of Electrical Power and Energy Systems, Engineering Science and Technology an International Journal, Energies, Energy Systems, IET Renewable Power Generation, IET Generation, Transmission & Distribution, Computer Physics Communications, Computers and Fluids, Advances in Engineering Software, OR Spectrum, Transactions of the Canadian Society for Mechanical Engineering, Automation in Construction, Applied Sciences, International Journal of Energy Research, International Journal of Production Research, Applied Thermal Engineering, Journal of Thermal Science, Journal of Energy Storage.
- **Conferences:** IEEE Power & Energy Society General Meeting, 2015-2020; ASME International Design Engineering Technical Conferences: Design Automation Conference (DAC), 2010-2021; ASME International Conference on Energy Sustainability, 2014-2017; ASME International Mechanical Engineering Congress & Exposition (IMECE), 2014; AIAA SciTech, 2017; AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference (MAO), 2012, 2017; SAE World Congress, 2012; IEEE Conference on Decision and Control, 2016; International Conference on Engineering Design, 2017.

-REFERENCES AVAILABLE UPON REQUEST-