



**Jeanine Johnson**  
Chair, Nominating Committee

PJM Interconnection  
2750 Monroe Blvd.  
Audubon, PA 19403

August 25, 2025

PJM Members Committee

Dear Members,

The purpose of the Nominating Committee, which is established pursuant to section 7.1 of the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. (PJM), is to identify and nominate qualified candidates for election to the Board of Managers (the Board) by the Members Committee. It is controlled by an eight-person committee that nominates candidates to the membership of PJM to be voted upon. The Nominating Committee comprises one representative elected annually from each one of the five sectors of the Members Committee and three members of the Board, one of which is the non-voting chair. The sector representatives in this cycle were Sean Chang (Other Suppliers Sector), Denise Foster Cronin (Transmission Owners Sector), Jordan Nader (End Use Customers Sector), Marji Philips (Generation Owners Sector) and Rory Sweeney (Electric Distributors Sector). The Board representatives were me (serving as the non-voting chair), Margo Loeb and Vickie VanZandt.

The committee met on May 28, 2025, and reviewed the desired qualifications and met several times since then to consider candidates. Candidate qualifications were considered in light of the criteria established by section 7.2 of the Operating Agreement for the composition of the Board. The committee worked this cycle, assisted by Korn Ferry International, to identify candidates that align with the desired qualifications to fill these vacancies. Following a nationwide search and open call, the Nominating Committee nominated Robert “Bob” Ethier and Le Xie to fill these vacant seats.

- Bob is currently a principal at Stickney Brook Consulting. Prior to consulting, he spent more than 24 years at ISO New England in various roles: an economist, vice president of market development, vice president of market operations and vice president of system planning. He holds a Bachelor of Arts in economics from Yale University, a Master of Science in resource economics and a doctor of philosophy, both from Cornell University.
- Le is currently the Gordon McKay Professor of Electrical Engineering and faculty co-director, power and AI initiative, Harvard John A. Paulson School of Engineering and Applied Sciences at Harvard University. Prior to joining Harvard University, Le held various academic positions at Texas A&M University. He holds a B.E. in electrical engineering from Tsinghua University, Beijing, China, an S.M. in engineering sciences from Harvard University and a Ph.D. in electrical and computer engineering from Carnegie Mellon University.

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The Nominating Committee is confident that Bob and Le will make significant contributions as PJM Board members. The Nominating Committee would like to acknowledge the interest of the PJM states in the activity of the Nominating Committee and appreciates the proposal of candidates. The Nominating Committee considered the proposed candidates, followed its process and code of conduct, and selected nominees best aligned with the position description adopted by the committee. See the May 2025 [Nominating Committee Announcement](#).

Please join me in congratulating these nominees.

Sincerely,

Jeanine Johnson  
Chair, Nominating Committee  
Member, Board of Managers

cc: Nominating Committee

# Robert Ethier

Florence, MA

## Employment Experience

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### **Stickney Brook Consulting LLC**, Florence, MA

*Senior Advisor, Forward Market Design LLC*

Sep 2024 – present

Consult on transparent, efficient continuous trading markets for electricity and wireless spectrum. Advise on price-based interconnection approaches.

*Senior Advisor, New England States' Committee on Electricity*

Sep 2024 – present

Provide advice and analysis to New England states on electricity markets, affordability of electricity, reliability, and transmission development, including collaboration with ISO New England and stakeholders.

### **ISO New England**, Holyoke, MA

*Vice President, System Planning*

Nov 2019 – Aug 2024

*Vice President, Market Operations*

Jul 2014 – Nov 2019

*Vice President, Market Development*

Jul 2008 – Jul 2014

*Chief Economist and Director, Resource Adequacy*

Mar 2006 – Jul 2008

*Chief Economist*

Jul 2005 – Mar 2006

*Director, Market Monitoring*

Mar 2003 – Jul 2005

*Manager, Market Monitoring*

Nov 2001 – Mar 2003

*Economist, Market Monitoring*

May 2000 – Nov 2001

### **Stratus Consulting**, Boulder, CO

*Senior Associate*

Jan 1999 – Apr 2000

### **Hagler Bailly Consulting Inc.**, Boulder, CO

*Associate Consultant*

Jan 1997 – Jun 1997

## Education

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### **Cornell University**, Ithaca, NY

May 1999

Doctor of Philosophy, Resource Economics

Dissertation: "Competitive Electricity Markets, Prices, and Generator Entry and Exit"

### **Cornell University**, Ithaca, NY

May 1996

Master of Science, Resource Economics

Thesis: "Competitive Electricity Markets in New York State: Empirical Impacts of Industry Restructuring"

### **Yale University**, New Haven, CT

May 1990

Bachelor of Arts, Economics

## Selected Publications

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Ethier, R. *et al.* 2004. "Final Report on Electricity Supply Conditions in New England During the January 14 – 16, 2004 'Cold Snap'." ISO New England Market Monitoring Department. Holyoke, MA. October 12, 2004.

Ethier, R. and J. Dombrowski. 2003. "A Review of Peaking Unit Safe Harbor (PUSH) Implementation and Results." ISO New England Market Monitoring Department. Holyoke, MA. December 3, 2003.

Ethier, R., G. Poe, W. Schulze, and J. Clark. 2000. "Comparison of Hypothetical Phone and Mail Contingent Valuation Responses with Actual Willingness to Contribute to Green Pricing Electricity Programs." *Land Economics*, Volume 76, Number 1, February 2000, pp.54-67.

Ethier, R., R. Zimmerman, T. Mount, W. Schulze, and R. Thomas. 1999. "Uniform Price Auction with Locational Price Adjustments for Competitive Electricity Markets." *International Journal of Electrical Power & Energy Systems*, Volume 21, Number 2, February, pp. 103-110.

Ethier, R. and T. Mount. 1998. "Winners and Losers in a Competitive Electricity Industry: An Empirical Analysis." *The Energy Journal*, Special Issue on Distributed Resources, January, pp. 161-186.

## **Selected Presentations**

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Ethier, R. 2024. "RTO/ISO Interregional Transmission Planning Perspectives." Presented at Northeast States Collaborative on Interregional Transmission. Johns Hopkins in Washington, DC, Washington, DC. July 8, 2024.

Ethier, R. 2023. "Insight from SPP's Neighbors." Presented at SPP's Resource Adequacy Summit. Hyatt Regency Hotel DFW, Dallas, TX. September 7, 2023.

Ethier, R. 2022. "Local and Regional Reliability Transmission Planning Criteria and Cost Management." Presented at the Federal Energy Regulatory Commission Technical Conference on Transmission Planning and Cost Management. 888 First Street NW, Washington, D.C. October 6, 2022.

Ethier, R. 2019. "Gas and Electric Coordination: Evolution or Revolution?" Presented at the Harvard Electricity Policy Group Ninety-Fourth Plenary Session. The Ritz-Carlton Half Moon Bay, Half Moon Bay, CA. March 26, 2019.

Ethier, R. 2017. "New England's Natural Gas-Electric Interdependencies." Presented at U.S. Department of Energy Electricity Advisory Committee Meeting. NRECA Conference Center, Arlington, VA. June 7, 2017.

Ethier, R. 2015. "The Utility of the Future." Presented at the Midwest ISO Annual Stakeholder Meeting. Pfister Hotel, Milwaukee, WI. June 17, 2015.

Ethier, R. 2010. "Maximizing Net Benefits Using Price-Responsive Demand Response." Presented at the Federal Energy Regulatory Commission Technical Conference On the Supplemental Notice on Demand Response Compensation in Organized Wholesale Energy Markets. RM10-17-000. Washington, DC. September 13, 2010.

Ethier, R. 2006. Testimony to Connecticut Energy and Technology Committee, Connecticut State Legislature, Bill SB 353 AAC Independent System Operator Membership. Legislative Office Building. Hartford, CT. February 28, 2006.

## **Selected Testimony**

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ISO New England, Inc., Testimony in Support of Mystic 8 & 9 Reliability Must Run Contract, FERC Docket No. ER18-1639-000 (November 2, 2018): Prepared Testimony of Robert G. Ethier.

ISO New England, Inc., Market Rule Changes to Implement a Sloped Demand Curve in the Forward Capacity Market, FERC Docket No. ER14-1639-000 (April 1, 2014): Prepared Testimony of Robert G. Ethier.

ISO New England, Inc., Answer to NEPOOL Comments on Market Rule Changes to Implement the Pay For Performance Market Design in the Forward Capacity Market, FERC Docket No. ER14-1050-000 (February 12, 2014): Prepared Testimony of Robert G. Ethier.

ISO New England, Inc. and New England Power Pool, Winter 2013-14 Reliability Program, FERC Docket No. ER13-1851-000 (June 28, 2013): Prepared Testimony of Robert G. Ethier and Peter Brandien.

ISO New England, Inc. and New England Power Pool, Revisions to Market Rule 1 to Establish a Reserve Constraint Penalty Factor for Replacement Reserve Requirement, FERC Docket No. ER13-1736-000 (June 20, 2013): Prepared Testimony of Robert G. Ethier and Christopher A. Parent.

ISO New England, Inc. and New England Power Pool, Tariff Revisions Regarding Elimination of the Reserve Margin Gross-Up for Demand Resources, FERC Docket No. ER09-xxx-000 (October 31, 2008), Attachment 3: Testimony of Robert G. Ethier.

**Honors, Achievements, and Service**

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|-----------------------------------------------------------------------------------|-------------|
| <b>Executive Committee Member, Eastern Interconnection Planning Collaborative</b> | 2019 – 2024 |
| <b>Board Member, North American Energy Standards Board</b>                        | 2014 – 2019 |
| <b>Board Member, Hampshire Regional YMCA</b>                                      | 2010 – 2016 |
| <i>Chair, Finance Committee</i>                                                   | 2011 – 2016 |
| <b>Warren Award 1997, Best Published Paper by a Graduate Student</b>              | May 1998    |
| Cornell University, Department of Agricultural, Resource and Managerial Economics |             |
| <b>Phi Kappa Phi Honor Society</b>                                                | May 1996    |
| <b>Gamma Sigma Delta Honor Society</b>                                            | May 1996    |
| <b>Pass with Distinction, Microeconomics Qualifying Exam</b>                      | June 1995   |
| Cornell University, Department of Economics                                       |             |

# Le Xie

Allston, MA

## Professional Experience

### Academic Appointments:

#### *Harvard University*

2025- Faculty Co-Director, Power and AI Initiative ([PAI](#)) at Harvard SEAS

2024- Gordon McKay Professor, School of Engineering and Applied Sciences

#### *Texas A&M University*

2022-24 Dean's Research Fellow (Coordinating energy research across the College of Engineering)

2020-24 Associate Director-Energy Digitization, Texas A&M Energy Institute

2018-24 Professor, Electrical and Computer Engineering

2015-18 Associate Professor with Tenure, Electrical and Computer Engineering

2010-15 Assistant Professor, Electrical and Computer Engineering

#### *MIT:*

Spring 2019 - Research Affiliate, Laboratory for Information and Decision Systems

Fall 2018 Visiting Scholar, Laboratory for Information and Decision Systems

#### *University of California, Berkeley:*

Spring 2018 Visiting Professor, Simons Institute for the Theory of Computing

## Education

2009 Carnegie Mellon University, Pittsburgh, PA  
Ph.D. in Electrical and Computer Engineering

2005 Harvard University, Cambridge, MA  
S.M. in Engineering Sciences

2004 Tsinghua University, Beijing, China  
B.E. in Electrical Engineering, Minor in English Language

## Activities with Industry

Dr. Xie is a Fellow of IEEE and a Distinguished Lecturer of IEEE Power and Energy Society (PES). He received the U.S. National Science Foundation CAREER Award, and DOE Oak Ridge Ralph E. Powe Junior Faculty Enhancement Award. He was awarded the 2021 IEEE Technical Committee on Cyber-Physical Systems Mid-Career Award, and 2017 IEEE PES Outstanding Young Engineer Award (one per year worldwide). He was a recipient of Texas A&M Dean of Engineering Excellence Award, and ECE Outstanding Professor Award. He serves or has served on the Editorial Board of IEEE Transactions on Power Systems (as one of the 3 Senior Editors currently), IET Transaction on Smart Grid, and Foundations and Trends in Electric Energy Systems. He is the founding chair of IEEE PES Subcommittee on Big Data &

Analytics for Grid Operations. His team received the Best Paper awards at North American Power Symposium 2012, IEEE SmartGridComm 2013, HICSS 2019 and 2021, IEEE Sustainable Power & Energy Conference 2019, and IEEE PES General Meeting 2020/2023. He has also served as consultant to Electric Power Research Institute (EPRI) and CenterPoint Energy.

## Selected Honors and Awards

- 2025 [Keynote Talk](#) 2025 HotCarbon Workshop on Sustainable Computer Systems
- [Plenary Talk](#) 2025 MathWorks Research Summit
- 2024 [Keynote Talk](#) 2024 American Society of Mechanical Engineers (ASME) Energy Sustainability Conference
- 2024 [Roundtable Discussion on “AI for Energy”](#), White House Office of Science and Technology Policy (OSTP)
- 2023 [Keynote Talk](#) U.S. Department of Energy Solar AI Workshop
- 2023 Prize Paper Award, 2023 IEEE PES General Meeting
- 2023 Prize Conference Paper Award, 2023 IEEE PES General Meeting
- 2022 Segers Family Dean’s Excellence Professor in Engineering, Texas A&M
- 2022 Engineering Dean’s Research Fellow, Texas A&M (2 fellows per year)
- 2022 Distinguished Lecturer, IEEE Power and Energy Society
- 2022 [Fellow of IEEE](#)
- Fellow of Asia-Pacific Artificial Intelligence Association (AAIA)
- 2022 Best Paper, Texas A&M Bitcoin Conference on paper entitled “Preliminary Study of Utilizing Cryptocurrency Mining for Demand Flexibility in Energy Systems”
- 2021 [IEEE Technical Committee on Cyber-Physical Systems Mid-Career Award](#)
- 2021 Texas A&M Dean of Engineering Excellence Award (Professor Level)
- 2021 The Best Paper Award, Hawaii International Conference on System Sciences (Electric Energy Systems Track)
- 2020 [Chancellor Enhancing Development and Generating Excellence in Scholarship \(EDGES\) Fellowship, Texas A&M University System](#) (highest honor for mid-career faculty for the entire university system)
- 2020 [Texas A&M Presidential Impact Fellow](#)
- 2020 Engineering Genesis Award, College of Engineering
- 2020 [Keynote Speech](#), International Conference on Power Engineering
- 2019 ISSIP-IBM-CBA student paper award, Hawaii International Conference on System Sciences (HICSS) (Role: Co-author and Advisor)
- 2017 [IEEE Power & Energy Society Outstanding Young Engineer Award](#)
- 2017 First Prize Best Paper Award, IEEE Texas Power and Energy Conference
- 2017 Eugene Webb Faculty Fellow, College of Engineering
- 2016 Outstanding Professor, ECE Department, Texas A&M University
- 2015 Texas A&M Dean of Engineering Excellence Award
- 2013 Texas A&M Engineering (TEES) Select Young Faculty Fellow
- 2012 US Department of Energy Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities
- 2012 [National Science Foundation CAREER Award](#)
- 2012 Best Paper Award, IEEE SmartGridComm
- 2012 Best Student Paper Award, North American Power Symposium

- 2011 Invited Participant, US National Academy of Engineering Japan-America  
Frontiers of Engineering Symposium
- 2005 Fellowship, Carnegie Institute of Technology



## Professional Activities

### Editorial:

- 2023- IEEE Transactions on Power Systems  
Role: Senior Editor
- 2021-23 IEEE Transactions on Power Systems  
Role: Editor
- 2011-17 IEEE Transactions on Smart Grid  
Role: Editor
- 2018- IET Smart Grid  
Role: Editorial Board
- 2014- Foundations and Trends on Electric Energy Systems  
Role: Founding Editorial Board
- 2022 Nominated as Editor-in-Chief, IEEE Transactions on Energy Markets, Policy and Regulation

### Advisory Board:

- 2018 The U.S. President's National Infrastructure Advisory Council (NIAC) project  
"Surviving a Catastrophic Power Outage"

### Professional Society Service:

- 2016-21 IEEE PES Subcommittee on Big Data & Analytics for Grid Operations  
Role: Founding Chair
- 2015-21 IEEE PES Research Subcommittee  
Role: Secretary, Vice-Chair, Chair
- 2013-15 IEEE PES Working Group on Big Data & Analytics for Grid Operations  
Role: Founding Chair

### Conference Chairs:

- 2023 NSF Workshop on Carbon-Neutral Electricity and Mobility  
Role: Chair
- 2021 PSERC Executive Forum on "Grid Edge," 2020  
Role: Steering Committee
- 2019 Steering Committee on Smart Grid Enabling Technologies  
Role: Chair
- 2018 NSF Workshop on Real-time Learning and Decision Making  
Role: Chair
- 2018 Super Session on Data Science and Quality as Applied to Power Systems, IEEE Power and Energy Society General Meeting  
Role: Chair
- 2017 IEEE Utility Big Data Workshop

- 2016      Role: Technical Committee Chair  
Workshop on Architecture and Economics of the Future Grid  
Role: Chair
- 2013      Symposium on the Whole Picture-Sense, Communicate, Compute, Control, IEEE  
SmartGridComm  
Role: Co-Chair
- 2011      International Federation of Automatic Control World Congress Special Session “The  
role of model predictive control in smart grids,” Italy  
Role: Co-Chair

**Institutional Committee Member at Harvard University (Selected):**

- 2024-      Master Program on Energy and Sustainability, SEAS
- 2025-      Graduate Admission Committee, SEAS
- 2025-      Provost Academic Leadership Forum, Harvard University

**Institutional Committee Member at Texas A&M University (Selected):**

- 2021-      Tenure & Promotion Committee for Electrical and Computer Engineering
- 2021-      Hiring Committee for Electrical and Computer Engineering Department
- 2021-      Graduate Studies Committee for Electrical and Computer Engineering Department
- 2021-      M.S. Energy Curriculum Committee, Texas A&M Energy Institute
- 2020-21    Faculty Advisory Committee for Electrical and Computer Engineering Department
- 2020-      Executive Committee, Texas A&M Energy Institute
- 2018      Search Committee for the Director of Texas A&M Energy Institute
- 2018-      Faculty Co-Advisor, Energy Research Society
- 2017-      Faculty Co-Advisor, Texas Power and Energy Conference
- 2016-18    Faculty Advisory Committee for the new Architecture Engineering program
- 2010-      Faculty Advisor, IEEE PES/PELS/IAS Student Chapter at Texas A&M
- 2010-      Founding Faculty Advisor, Texas A&M Energy Club

**Program Committee Member (Selected):**

- 2020      NSF Workshop on Forging Connections between Machine Learning, Data Science, &  
Power Systems Research  
Role: Organizing Committee
- 2017      Intelligent Systems Application to Power Systems (ISAP)  
Role: Technical Committee Chair
- 2017      Texas Power and Energy Conference  
Role: Faculty Advisor
- 2013      NSF Cyber-Physical Energy Systems Workshop  
Role: Reporter
- 2013      International Conference on Cyber-Physical Systems  
Role: Technical Program Committee Member
- 2011      The 2011 IEEE International Conference on Networking, Sensing and Control  
(ICNSC 2011)

|      |                                                                                                                                              |
|------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 2011 | Role: Program Committee Member<br>The 2011 IEEE SmartGridComm                                                                                |
| 2010 | Role: Technical Program Committee Member<br>The 2010 IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing |
| 2010 | Role: Program Committee Member<br>National Science Foundation I/UCRC Workshop on Transportation and Electricity Convergence                  |
| 2009 | Role: Organizing Committee Chair<br>NSF Cyber-Physical Energy Systems Workshop                                                               |
|      | Role: Service and Writing Committee                                                                                                          |

## Selected Media Report

[MR-15] “AI, Energy Demand, and Regulators”  
The Salata Institute at Harvard University, Oct 2024

[MR-14] “Crypto Mining & The Texas Power Grid”  
Spectrum News, July 2023

[MR-13] “Blistering Texas sun is also part of producing the state’s energy”  
NBC DFW, July 2023

[MR-12] “Bitcoiners take it as a given that a mining rush will improve Texas’s grid. Not everyone is convinced”  
The Block, May 2022

[MR-11] “Could Your Home Appliances Help with Future Power Outages?”  
KXAN Austin, Feb 2022

[MR-10] “Toward Carbon-Neutral Electricity and Mobility: AI for Smart Grid”  
AI Chats, a podcast series produced by the law firm of Haynes and Boone, July 2021.

[MR-9] “How Texas Could Address Its Energy Infrastructure Going Forward”  
NPR-All Things Considered, Feb. 2021

[MR-8] “Texas, the go-it-alone state, is rattled by the failure to keep the lights on”  
Washington Post, Feb. 2021

[MR-7] “3 ways Texas could avoid another electricity crisis”  
Vox, Feb. 2021

[MR-6] “Texas largely relies on natural gas for power. It wasn’t ready for the extreme cold”  
Texas Tribune, Feb. 2021

[MR-5] “Opinion: What went wrong with Texas's power failure and how to fix it”  
Houston Chronicle, Feb. 2021

[MR-4] “Energy consumption below projections due to COVID-19”  
25abc KXXV, July 2020

[MR-3] “How the Pandemic Impacts U.S. Electricity Usage”  
IEEE Spectrum, June 2020

[MR-2] “How concerned should we be about record-breaking energy use in Texas?”  
KBTX-TV, July 2018

[MR-1] “How to Hack the Power Grid for Fun and Profit”  
MIT Technology Review, October 2010

## Courses

### **Taught at Harvard University:**

ES 215 - Physical and Economical Operations of Sustainable Energy Systems  
(New Course Developed by Dr. Xie)  
Fall 2025

### **Taught at Texas A&M University:**

ECEN 713 - Data Sciences for Modern Power Systems  
(New Course Developed by Dr. Xie)  
Fall 2015, Fall 2017, Spring 2020, Fall 2023  
Average Enrollment: 45. Course Evaluation: 4.8/5.0

ECEN 415/715 - Physical and Economical Operations of Sustainable Energy Systems  
(New Course Developed by Dr. Xie)  
Spring 2021, Spring 2019, Spring 2016, Spring 2015, Spring 2014, Fall 2012, Fall 2011  
Average Enrollment: 50. Average Course Evaluation: 4.9/5.0

ECEN 459 - Power System Fault Analysis and Protection (Junior/Senior level course)  
Spring 2013, Enrollment: 83. Course Evaluation: 4.8/5.0

ECEN 214 - Fundamentals of Electrical Engineering (Sophomore level)  
Spring 2011/2012, Average Enrollment: 48. Average Course Evaluation: 4.86/5.0

ECEN 614 - Power System State Estimation  
Fall 2010, Fall 2014, Fall 2016, Average Enrollment: 40. Average Evaluation: 4.75/5.0

ECEN 689 - Engineering and Economics of Competitive Power Systems (Converted to Course ECEN 415/715)  
Spring 2010, Enrollment 26. Course Evaluation: 4.7/5.0

### **Short Courses Offered to Industry:**

Power Systems and Artificial Intelligence: An Introduction  
2025, Harvard Professional Education

State Estimation  
2016, Offered to CenterPoint Energy

Data Sciences for Modern Power Systems  
2015, 2018, 2020, 2021, 2023, Offered to CenterPoint Energy, ISO-New England, Midcontinental Independent System Operator (MISO)

## **Current Research Associates**

### ***Post-Doctoral Scholars:***

1. Subir Majumder (Spring 2023-), Ph.D. from Indian Institute of Technology Bombay, India, and the University of Wollongong, Australia

### ***Doctoral Students:***

1. Amit Jena (Fall 2020-) [Role: Chair]
2. Ali Menati (Fall 2021-) [Role: Chair]
3. Qian Zhang (Fall 2022-) [Role: Chair]
4. Dongjoo Kim (Fall 2022-) [Role: Chair]
5. Lin Dong (Fall 2023-) [Role: Chair]
6. Shaihuai Liu (Fall 2024-) [Role: Chair]

## **Past Research Associates**

### ***Past Post-Doctoral Researchers:***

1. Apurv Shukla (2022-2024)  
Now is a Postdoctoral Associate at University of Michigan
2. Ki-Yeob Lee (2021-2024)  
Now is a Postdoctoral Associate at PNNL
3. Sivaranjani Seetharaman (2019-2022)  
Now is a Tenure-track Assistant Professor at Purdue University
4. Bin Wang (2018-2019)  
Now is a Tenure-track Assistant Professor at University of Texas, San Antonio

5. Anupam Thatte (2015)  
Now with Midcontinental ISO
6. Tong Huang (2021)  
Now is a Tenure-track Faculty at San Diego State University
7. Hung-Ming Chou (2016-2017)  
Now with Dominion Power, VA
8. V. Seshadri Sravan Kumar (2016-2017)  
Now is a Tenure-track Assistant Professor, Indian Institute of Technology

***Past Doctoral Students that I chaired or co-chaired:***

1. Xiangtian Zheng (2023)  
Thesis: *Data creation and decision making for improved power system security: A machine learning approach*  
Now with Castleton Commodities International
2. Rayan El Helou (2023)  
Thesis: *Leveraging Emergent Distributed Energy Resources for Ancillary Services Provision in Modern Power Systems*  
Now with REV Renewables
3. Dongqi Wu (2022)  
Thesis: *Data-Driven Hazard and Disaster Mitigation for Power Grid Abnormal Conditions*  
Now with Southern Grid Corporation
4. Ameema Zainab (2021, co-chair with H. Abu-Rub)  
Thesis: *Real-Time Big Data Platform for Distributed Energy Load Forecasting with Computing Approaches*  
Now with eBay
5. Dabeeruddin Syed (2021, co-chair with H. Abu-Rub)  
Thesis: *Real-Time Big Data Platform for Distributed Energy Load Forecasting with Computing Approaches*  
Now with eBay
6. Tong Huang (2021)  
Thesis: *Physical and Cyber Anomaly Management in Massively Digitized Power Systems*  
Now with San Diego State University as an Assistant Professor
7. Sadegh Modarresi (2019)  
Thesis: *A Scenario Approach for Operational Planning with Deep Renewables in Power Systems*  
Now with ERCOT
8. Xinbo Geng (2019)  
Thesis: *Power System Operations with Probabilistic Guarantees*  
Now with Applian Way Energy Partners
9. Hao Ming (2018)  
Thesis: *A Household-level Incentive-based Demand Response: Theory, Platform and Experiment*  
Now as a Tenure-track Faculty at Southeast University, China

10. Meng Wu (2017)  
Thesis: *Physics-Based and Data-Driven Analytics for Enhanced Planning and Operations in Power Systems with Deep Renewable Penetration*  
Now as an Tenure-track assistant Professor at Arizona State University
11. Omar Urquidez (2016)  
Thesis: *Embedded HVDC: Engineering and Economics*  
Now is a managing director at Burns & McDonnell
12. Ebony Mayhorn (2015)  
Thesis: *Optimal Coordination of Distributed Energy Resources in Isolated Power Systems: A Cross-Time-Scale Perspective*  
Now with Pacific Northwest National Lab
13. Yun Zhang (2015)  
Thesis: *A Clean Slate Control Framework for Future Distribution Systems*  
Now with Energy Trading Companies
14. Yang Chen (2015)  
Thesis: *Synchrophasor-based Distributed Real-time Operations*  
Now as a Senior Engineer at PJM
15. Yingzhong Gu (2014)  
Thesis: *Secure Distributed Stochastic Look-ahead Dispatch: Theory and Case Studies*  
Now with GoogleX
16. Anupam Thatte (2014)  
Thesis: *Risk-aware Coordination of Multi-scale Energy Storage Services*  
Now is a Senior Engineer at Mid-Continental ISO
17. Dae-Hyun Choi (2013)  
Thesis: *Impact Analysis of Data Quality in Electricity Market Operations*  
Now as an Tenured Associate Professor, Chung-Ang University, Korea

***Past Master Students:***

1. Anindita Samanta (2024)  
Project Title: Electromagnetic Transient Model of Cryptocurrency Mining Loads for Low-Voltage Ride-Through Assessment in Transmission Grids  
Now with Technip Energies
2. Sienna Shi (2023)  
Thesis: *A Data-Driven Approach to Quantifying Flexible Loads in Modern Power Systems*  
Now with ERCOT
3. Athindra Venkatraman (2019)  
Thesis: *Human-Centered Electricity Services for The Future Distribution Grid*  
Now with Consolidated Edison
4. Yuqi Zhou (2018)  
Thesis: *Multi-Area State Estimation in Adversarial Environment*  
Now is a Ph.D. student at UT-Austin
5. Benjamin Wiseman (2018)  
Thesis: *Quantifying the Effect of Air Conditioning Dynamics on Power System Stability*

### *Limits*

Now with CenterPoint Energy

6. Angelica Clark (2017)  
Thesis: *A metric and evaluation of grid weakness with large renewable penetration*  
Now with ERCOT
7. Yuanyuan Li (2017)  
Thesis: *Data-driven Modeling of Price Responsive Demand*  
Now with the China Electric Power Research Institute
8. Tong Huang (2017)  
Thesis: *Prioritization of PMU Location and Signal Selection for Monitoring Critical Power System Oscillations*  
Now with MIT as a Postdoc
9. Jonathan Snodgrass (2016)  
Thesis: *Analysis of Lightning Arrester Overloading in Future Distribution Systems with Distributed Generation*  
Now with Texas A&M as a Senior Research Scientists
10. Xinbo Geng (2015)  
Thesis: *Understanding LMP-Load Coupling from A Market Participant's Perspective: Theory, Examples and An SVM-based Data-driven Approach*  
Now with Appian Way Energy Trading
11. Sean Chang (2015)  
*Master of Engineering*  
Now with ERCOT
12. Chen Yang (2013)  
Thesis: *A Framework of Incorporating Spatio-temporal Forecast in Look-ahead Dispatch with Photovoltaic Generation*  
Now with NYISO
13. Fan Zhang (2011)  
Thesis: *Coordinated Control and Optimization of Virtual Power Plants for Energy and Frequency Regulation Services in Electricity Markets*  
Now with Entergy, Houston TX

### **Past Undergraduate Research Associates (Selected, a total of 30+):**

1. Connor Aimone  
[Undergraduate Thesis Won the Most Outstanding Thesis for the entire campus, 2015](#)
2. Benjamin Wiseman  
Undergraduate research led to a conference paper published in IEEE T&D 2016 [C66]

### **Selected Invited Talks**

[IC-42] “The Interplay Between AI and Electric Power Systems”  
([Keynote Talk](#)), HotCarbon Workshop on Sustainable Computer Systems, July 2025  
Energy Policy Seminar, Harvard Kennedy School, Mar 2025  
3<sup>rd</sup> Foundation Models for the Electric Grid Workshop, Argonne National Laboratory, Feb 2025  
Boston University CISE Seminar, Feb 2025



[IC-41] “Exploring the Capabilities of Large Language Models in Edge-Level Power Electronic Circuitry”  
NSF Workshop on workshop on Enabling Cyber-Resilient Distribution Systems with Edge Inverter-Based Resources (IBR), MIT, Oct 2024  
PSERC Webinars, Sept 2024

[IC-40] “Energy System Digitization in the Era of AI: A Three-Layered Approach Toward Carbon Neutrality”  
Harvard College, Jan 2025  
([Keynote Talk](#)), American Society of Mechanical Engineers (ASME) Energy Sustainability Conference, Jul 2024

[IC-39] “Energy system digitization in the era of AI: A layered approach towards carbon neutrality”  
([Keynote Talk](#)), U.S. Department of Energy Solar AI Workshop, Oct 2023

[IC-38] “Accelerating and Scaling Up Energy System Decarbonization: the Role of Digitization”  
([Plenary Talk](#)), Session on Sustainability, MIT Applied Energy Symposium, Oct 2023

[IC-37] “Blockchain and Energy: The Impact of Cryptocurrency Mining on Power Grid”  
([Keynote Talk](#)), Texas Power and Energy Conference, Feb 2023.  
PSERC Webinars, April 2024

[IC-36] “An Open-access Cross-domain Approach to Analyzing the Impact of Extreme Events on the Electricity Sector: What We Learned from COVID-19 and 2021 Texas Winter Outage”  
([Plenary Talk](#)), *MIT Applied Energy A+B Symposium*, Aug 2021.  
University of South Florida, Sep 2021.  
Texas A&M Smart Grid Center, Sep 2021.  
Iowa State University, Oct 2021.  
([Plenary Panel](#)), IEEE eGrid 2021.

[IC-35] “Toward carbon-neutral electricity and mobility: Is the grid infrastructure ready?”  
([Plenary Panel](#)) jointly with Dr. C. Singh, Global Green Development Summit, 2021 (via Zoom)  
*ARPA-E*, May 2022  
([Distinguished Lecture](#)) University of Macau IOTSC distinguished Lecture, August 2022

[IC-34] “Architecture and Domain-tailored Intelligence for Electricity Infrastructure Renewal”  
*MIT*, 2020

[IC-33] “A Cross-Domain Data-driven Approach to Analyzing the Short-Run Impact of COVID-19 on the U.S. Electricity Sector”  
*Power Systems Engineering Research Center*, 2020  
*MIT Paths to Impact Workshop*, 2021  
*Texas A&M Smart Grid Webinar*, 2020  
*Cornell University*, 2020

*2021 IEEE Big Data & Analytics for Power Systems Workshop*

[IC-32] “An Active Detection Scheme for Cyber Attacks on Grid-tied PV Systems,”  
(*Keynote Speech*), jointly with P. Enjeti, The International Conference on Power Engineering,  
Dec 2020 (via Zoom)

[IC-31] “Massively Digitized Power Grid: Opportunities, Dangers, and Challenges”  
(*Keynote Speech*), IEEE PES CAMS Webinar Series, July 2020

[IC-30] “An active defense framework through dynamic watermarking in power  
electronically-interfaced distribution grids,” jointly with P. Enjeti  
(*Keynote Speech*), IEEE CyberPELS, 2020

[IC-29] “Beyond the Duck Curve: Re-envisioning Physical and Cyber Security in the Future  
Distribution Grid”  
*Massachusetts Institute of Technology (MIT)*, November 2019

[IC-28] “Massively Digitized Power Grid: Opportunities, Dangers, and Challenges”  
*Massachusetts Institute of Technology (MIT)*, May 2019  
*Cornell University*, November 2019

[IC-27] “Streaming Analytics for the Smart Grid”  
*Massachusetts Institute of Technology (MIT)*, September 2018  
*Duke University*, October 2018  
*Northeastern University*, November 2018  
*Princeton University*, December 2019  
*Department of Energy*, October 2019

[IC-26] “Towards Real-time Learning and Decision Making in Energy Systems”  
*Harvard University*, October 2018

[IC-25] “Energy Coupon: Demand Response Analytics with Human in the Loop,”  
(*Plenary Talk*), 19<sup>th</sup> *International Conference on Intelligent Systems Applications to Power  
Systems*, Sep 2017.

## Outreach Events

[O-3] Harvard SEAS Dean's Dialogue: Are Electric Vehicles Driving Sustainability? 2025

[O-2] Engineering Outreach Aggieland Saturday, 2021

[O-1] ECE Day, Highschool Outreach Events, 2012, 2013

## Publications

*(Mentored students are designated with asterisk \*)*

**Patents:** 6 pending

**Book Chapters:** 4

**Books/Monographs:** 3

**Journal Articles:** 100+

**Peer-Reviewed Conference Publications:** 100+

**Google Scholar Citation:** 13451, **h-index:** 57 (Until 7/8/2025)

### Patents (6 pending)

[P6] (Pending): Methods and systems for detecting compromised sensors using dynamic watermarking

US Patent (2023) Filed in June 2023

P. Enjeti, **L. Xie**, and P.R. Kumar

[P5] (Pending): Power Electronics Intelligence at the Network Edge (PINE)

US Patent (2023) Filed in March 2023

P.R. Kumar, **L. Xie**, and P. Enjeti

[P4] (Pending): Method and System for Designing a 'Cybershield'-A Robust Cyber Intrusion Detection Scheme with Dynamic Watermarking Principle

US Patent (2022) Filed in June 2022

P. Enjeti, P. R. Kumar, and **L. Xie**

[P3] (Pending): Methods, systems, and computer readable media for model-free privacy preserving thermal load management

US Patent No. US63/067,282, (2020)

Sivaranjani Sivaranjani\*, **Le Xie**, and Panganamala R. Kumar

[P2] (Pending): Power System Protective Relay Control Using Reinforcement Learning

US Patent No. US17/242,947, (2020)  
Dongqi Wu\*, **Le Xie**, and Dileep Kalathil, and Miroslav Begovic

[P1] (Pending): System and Apparatus of Power Electronic Intelligence at the Network Edge  
US Patent No. US16/646,496, (2017)  
P. R. Kumar, **Le Xie**, Prasad N. Enjeti

### **Books/Monograph (3)**

[B3] M.D. Ilić, **L. Xie**, and Q. Liu, editors, *Engineering IT-Based Electricity Services of the Future: The Tale of Two Low-cost Green Azores Islands*, Springer, 2013.

[B2] **Le Xie**, Meng Wu\* and P. R. Kumar, *Architecture and Economics for Grid Operation 3.0, Foundations and Trends® in Electric Energy Systems*, 2018.

[B1] **L. Xie**, Y. Weng, R. Rajagopal, *Data Sciences and Applications for Modern Power Systems*, Springer Nature, 2023.

### **Book Chapters (4)**

[BC4] **L. Xie**, Y. Gu\*, and M.D. Ilić, “Look-Ahead Model-Predictive Generation Dispatch Methods,” in M.D. Ilić, **L. Xie**, and Q. Liu, editors, *Engineering IT-Enabled Sustainable Electricity Services: The Tale of Two Low-cost Green Azores Island*, pp. 209-223. Springer US, 2013.

[BC3] J. Joo, Y. Gu\*, J. Donadee, **L. Xie**, and M.D. Ilić, “Look-Ahead Model-Predictive Generation and Demand Dispatch for Managing Uncertainties,” in M.D. Ilić, **L. Xie**, and Q. Liu, editors, *Engineering IT-Enabled Sustainable Electricity Services: The Tale of Two Low-cost Green Azores Island*, pp. 247-259. Springer US, 2013.

[BC2] **L. Xie**, D.-H. Choi\*, S. Kar, and H. V. Poor, “Bad data detection in smart grid: a distributed approach.” in H.V. Poor, Z. Han, and E. Hossain, editors, *Smart Grid Communications and Networking*, Cambridge University Press, 2012.

[BC1] **L. Xie** and M.D. Ilić, “Module-based interactive protocol for integrating wind energy resources with guaranteed stability.” in R.R. Negenborn, Z. Lukszo, and J. Hellendoorn, editors, *Intelligent Infrastructures*, Springer, Berlin, Germany 2010.

### **Journals**

[J119] I. Aravena, C.-C. Sun, R. Shi\*, S. Majumder\*, W. Yan, J.-Y. Joo, **L. Xie** and J. Wang, “Open Power System Datasets and Open Simulation Engines: A Survey Toward Machine Learning Applications,” in *IEEE Open Access Journal of Power and Energy*, vol. 12, pp. 353–365, 2025.

[J118] D. Kim\*, A. K. Karnigala\*, R. Shi\* and **L. Xie**, “Actionable Measures of Demand Side

Resources as a Part of Virtual Power Plants: Case Studies in Texas,” in IEEE Electrification Magazine, vol. 13, no. 1, pp. 75–83, 2025.

[J117] M. P. Korukonda, M. Shahidehpour and L. Xie, “Cyber Resilience in Virtual Power Plants: A Multiscale Multilayer Approach Toward Secure Energy Management,” in IEEE Electrification Magazine, vol. 13, no. 1, pp. 54–65, 2025.

[J116] Q. Zhang\*, P. R. Kumar and L. Xie, "An Average Power-Based Planning Framework of Transmission Expansion: A New Role for Energy Storage," in IEEE Open Access Journal of Power and Energy, vol. 12, pp. 122-134, 2025.

[J115] Q. Zhang\* and **L. Xie**, "Accelerating Chance-Constrained SCED via Scenario Compression," *IEEE Transactions on Power Systems*, vol. 40, no. 2, pp. 1880-1890, 2025.

[J114] X. Liu, R. Saravanan, P. Chang, D. Fu, and **L. Xie**, "Droughts in Wind and Solar Power: Assessing Climate Model Simulations for a Net-Zero Energy Future," *Geophysical Research Letters*, vol. 51, no. 24, e2024GL109416, 2024.

[J113] H.F. Hamann, B. Gjorgiev, T. Brunswiler, L.S.A. Martins, A. Puech\*, **L. Xie**, et al., "Foundation Models for the Electric Power Grid," *Joule*, vol. 8, no. 12, pp. 3245-3258, 2024.

[J112] **L. Xie**, N. Li, and H.V. Poor, "Sustainable Electrification in the Era of AI," *Nature Reviews Electrical Engineering*, vol. 1, no. 8, pp. 493-494, 2024.

[J111] **L. Xie**, S. Majumder\*, T. Huang\*, Q. Zhang\*, P. Chang, D.J. Hill, and M. Shahidehpour, "The Role of Electric Grid Research in Addressing Climate Change," *Nature Climate Change* 14.9 (2024): 909-915.

[J110] S. Majumder\*, L. Dong\*, F. Doudi\*, Y. Cai\*, C. Tian, D. Kalathil, K. Ding, A.A. Thatte, N. Li, and **L. Xie**, "Exploring the capabilities and limitations of large language models in the electric energy sector," in *Joule*, 8(6), pp.1544-1549. <https://doi.org/10.1016/j.joule.2024.05.009>

[J109] M. Hao\*, M. Lin, C. Gao, N. Zhang, **L. Xie**, and Y. Mou, "Towards the Prospect of Carbon-Neutral Power System 2060: A Power-Meteorology-Society Systematic View," *Heliyon*, vol. 10, no. 6, 2024.

[J108] Q. Zhang\*, A. Shukla\* and **L. Xie**, "Efficient Scenario Generation for Chance-Constrained Economic Dispatch Considering Ambient Wind Conditions," in IEEE Transactions on Power Systems, vol. 39, no. 4, pp. 5969-5980, 2024.

[J107] L. Xu, K. Feng, N. Lin, A. Perera, H. Poor, **L. Xie**, C. Ji, X. A. Sun, Q. Guo, and M. O'Malley. "Resilience of renewable power systems under climate risks." *Nature Reviews Electrical Engineering* 1(1), 53–66 (2024). <https://doi.org/10.1038/s44287-023-00003-8>

- [J106] H. Ibrahim, J. Kim, J.A. Ramos-Ruiz, W.H. Ko, T. Huang\*, P.N. Enjeti, P.R. Kumar, and **L. Xie**, "Detection of Cyber Attacks in Grid-Tied PV Systems Using Dynamic Watermarking," in *IEEE Transactions on Industry Applications*, vol. 60, no. 1, pp. 819-827, Jan.-Feb. 2024, doi: 10.1109/TIA.2023.3321588.
- [J105] W.H. Ko, J.A. Ramos-Ruiz, T. Huang\*, J. Kim, H. Ibrahim, P.N. Enjeti, P.R. Kumar, and **L. Xie**, "Robust Dynamic Watermarking for Cyber-Physical Security of Inverter-Based Resources in Power Distribution Systems," in *IEEE Transactions on Industrial Electronics*, vol. 71, no. 7, pp. 7106-7116, July 2024, doi: 10.1109/TIE.2023.3303614.
- [J104] A. Menati\*, X. Zheng\*, K. Lee\*, R. Shi\*, P. Wei, C. Singh, and **L. Xie**, "High-resolution modeling and analysis of cryptocurrency mining's impact on power grids: Carbon footprint, reliability, and electricity price," in *Advances in Applied Energy*, Vol 10, 2023, <https://doi.org/10.1016/j.adapen.2023.100136>.
- [J103] K. Lee\*, P. Zhao, A. Bhattacharya, B. K. Mallick and **L. Xie**, "An Active Learning-based Approach for Hosting Capacity Analysis in Distribution Systems," in *IEEE Transactions on Smart Grid*, vol. 15, no. 1, pp. 617-626, Jan. 2024, doi: 10.1109/TSG.2023.3290414.
- [J102] X. Zheng\*, **L. Xie**, K. Lee\*, D. Fu, J. Wu\* and P. Chang, "Impact of climate simulation resolutions on future energy system reliability assessment: A Texas case study," in *iEnergy*, doi: 10.23919/IEN.2023.0014.
- [J101] D. Wu\*, D. Kalathil, M.M. Begovic, K.Q. Ding, and **L. Xie**, "Deep reinforcement learning-based robust protection in der-rich distribution grids," *IEEE Open Access Journal of Power and Energy*, 9, pp.537-548, 2022.
- [J100] A. Menati\*, K. Lee\*, and **L. Xie**, "Modeling and Analysis of Utilizing Cryptocurrency Mining for Demand Flexibility in Electric Energy Systems: A Synthetic Texas Grid Case Study," *IEEE Transactions on Energy Markets, Policy and Regulation*, 1(1), 1-10, 2023
- [J99] X. Zheng\*, D. Wu\*, L. Watts\*, E. N. Pistikopoulos, and **L. Xie**, "Analyzing Extreme Events in Power Systems: An Open, Cross-Domain Data-Driven Approach," *IEEE Power and Energy Magazine*, Nov 2022.
- [J98] T. Huang\*, S. Gao, & **L. Xie**, "A Neural Lyapunov approach to Transient Stability Assessment of Power Electronics-interfaced Networked Microgrids," *IEEE Transactions on Smart Grid*, 13(1), 106-118, 2021
- [J97] **Le Xie**, Tong Huang\*, Xiangtian Zheng\*, Yan Liu, Mengdi Wang, Vijay Vittal, P. R. Kumar, Srinivas Shakkottai, and Yi Cui, "Energy System Digitization in the Era of AI: A Three-Layered Approach towards Carbon Neutrality," *Patterns* 3, no. 12 (2022).
- [J96] **Le Xie**, Tong Huang\*, P. R. Kumar, Anupam A. Thatte\*, Sanjoy K. Mitter, "On an Information Control Architecture for Future Electric Energy Systems", *Proceedings of the IEEE*, 110(12), 1940-1962.

- [J95] Zheng, X.\*, Xu, N., Trinh, L., Wu, D.\*, Huang, T.\*, Sivaranjani\*, S., Liu, Y. and **Xie, L.**, “A multi-scale time-series dataset with benchmark for machine learning in decarbonized energy grids,” *Nature Scientific Data*, 9(1), pp.1-18., 2022.
- [J94] Dongqi Wu\*, Xiangtian Zheng\*, Ali Menati\*, Lane Smith, Bainan Xia, Yixing Xu, Chanan Singh, **Le Xie**, “How Much Demand Flexibility Could Have Spared Texas from the 2021 Outage?”, *Advances in Applied Energy*, August 2022.
- [J93] R. El. Helou\*, S. Sivaranjani\*, D. Kalathil, A. Schaper, **L. Xie**, “The impact of heavy-duty vehicle electrification on large power grids: A synthetic Texas case study,” *Advances in Applied Energy*, Volume 6, June 2022, doi: 10.1016/j.adapen.2022.100093.
- [J92] Chao Yan, Xinbo Geng\*, Zhaohong Bie, **Le Xie**, “Two-stage robust energy storage planning with probabilistic guarantees: A data-driven approach,” *Applied Energy*, Volume 313, May 2022, doi: 10.1016/j.apenergy.2022.118623.
- [J91] D. Wu\*, R. E. Helou\* and **L. Xie**, "Towards an AI-friendly cross-timescale simulation and analysis platform for electric distribution systems," in *iEnergy*, vol. 1, no. 1, pp. 133-140, March 2022, doi: 10.23919/IEN.2022.0009.
- [J90] Xiangtian Zheng\*, Dongqi Wu\*, Liam Watts\*, E. N. Pistikopoulos, and **Le Xie**, "Extreme Events in Power Systems: An Open, Cross-domain Data-driven Approach," *IEEE Power and Energy Magazine*, to appear in 2023.
- [J89] Kiyeob Lee\*, Xinbo Geng\*, S. Sivaranjani\*, Bainan Xia, Hao Ming, Srinivas Shakkottai, **Le Xie**, “Targeted demand response for mitigating price volatility and enhancing grid reliability in synthetic Texas electricity markets,” in *iScience*, Volume 25, Issue 2, Feb 2022, doi: 10.1016/j.isci.2021.103723
- [J88] D. Wu, B. Wang\*, F-E. Wolter, and **L. Xie**, “Tri-Sectional Approximation of the Shortest Path to Long-Term Voltage Stability Boundary With Distributed Energy Resources,” *IEEE Transactions on Power Systems*, 2022.
- [J87] A. Venkatraman\*, A., A. A. Thatte\*, and **L. Xie**, “A smart meter data-driven distribution utility rate model for networks with prosumers,” *Utilities Policy*, 70, 2021.
- [J86] Chien-fei Chen, Thomas Dietz, Nina H Fefferman, Jamie Greig, Kristen Cetin, Caitlin Robinson, Laura Arpan, Marcel Schweiker, Bing Dong, Wenbo Wu, Yue Li, Hongyu Zhou, Jianzhong Wu, Jin Wen, Joshua S Fu, Tianzhen Hong, Da Yan, Hannah Nelson, Yimin Zhu, Xueping Li, **Le Xie**, Rachel Fu, “Extreme events, energy security and equality through micro-and macro-levels: Concepts, challenges and methods,” *Energy Research & Social Science*, 2022.
- [J85] Kiyeob Lee\*, Xinbo Geng\*, S. Sivaranjani\*, Bainan Xia, Hao Ming\*, Srinivas Shakkottai, and **Le Xie**, “Targeted Demand Response for Mitigating Price Volatility and Enhancing Grid Reliability in Synthetic Texas Electricity Markets,” *iScience (Cell Press)*, 2022.

- [J84] Tong Huang\*, Jorge Ramos-Ruiz, Woo-Hyun Ko, Jaewon Kim, Prasad Enjeti, P. R. Kumar, and **Le Xie**, "Enabling Secure Peer-to-Peer Energy Transactions Through Dynamic Watermarking in Electric Distribution Grids: Defending the distribution system against sophisticated cyberattacks with a provable guarantee," *IEEE Electrification Magazine*, Volume 9, Issue 3, Sept. 2021.
- [J83] S. K. Mazumder, L. Xie, et al., "A Review of Current Research Trends in Power-Electronic Innovations in Cyber-Physical Systems," in *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 9, no. 5, pp. 5146-5163, Oct. 2021, doi: 10.1109/JESTPE.2021.3051876.
- [J82] Wu, Dongqi, Xiangtian Zheng, Yixing Xu, Daniel Olsen, Bainan Xia, Chanan Singh, and **L. Xie**, "An open-source extendable model and corrective measure assessment of the 2021 Texas power outage." *Advances in Applied Energy* 4 (2021).
- [J81] S. Lee, **L. Xie**, and D.-H. Choi, "Privacy-preserving Energy Management of a Shared Energy Storage System for Smart Buildings: a Federated Deep Reinforcement Learning Approach," *Sensors*, 2022.
- [J80] **L. Xie**, C. Singh, S. K. Mitter, M. A. Dahleh, and S. S. Oren, "Towards Carbon-neutral Electricity and Mobility: Is the Grid Infrastructure Ready?" *Joule (Cell Press)*, 2021.
- [J79] X. Geng\*, **Le Xie**, and M. Sadegh Modarresi\*, "Computing Essential Sets for Convex and Non-convex Scenario Problems: Theory and Application," *IEEE Transactions on Control of Network Systems*, 2021.
- [J78] R. El-Helou\*, D. Kalathil, and **L. Xie**, "Fully Decentralized Reinforcement Learning-based Control of Photovoltaics in Distribution Grids for Joint Provision of Real and Reactive Power," *IEEE Open Access Journal of Power and Energy*, 2021.
- [J77] Dan Wu, Franz-Erich Wolter, Bin Wang\*, and **Le Xie**, "Searching for the Shortest Path to Voltage Instability Boundary: from Euclidean Space to Algebraic Manifold," *International Journal of Electrical Power & Energy Systems*, 2021.
- [J76] Xiangtian Zheng\*, Bin Wang, Dileep Kalathil and **Le Xie**, "Generative Adversarial Networks Based Synthetic PMU Data Creation for Improved Event Classification," *IEEE Open Access Journal of Power and Energy*, vol. 8, pp. 68-76, 2021, doi: 10.1109/OAJPE.2021.3061648.
- [J75] S. Sivaranjani\*, Etika Agarwal, Vijay Gupta, Panos Antsaklis, and **L Xie**, "Distributed Mixed Voltage Angle and Frequency Droop Control of Microgrid Interconnections with Loss of Distribution-PMU Measurements," *IEEE Open Access Journal of Power and Energy*, 2021.
- [J74] H. Zhong, Z. Tan, Y. He, **L. Xie**, and Chongqing Kang. "Implications of COVID-19 for the electricity industry: A comprehensive review," *CSEE Journal of Power and Energy Systems*, Issue 6, No. 3, pp. 489-495, 2020 (**Excellent Paper Award**).



- [J73] G. Ruan\*, J. Wu\*, H. Zhong, Q. Xia, and **L. Xie**, “Quantitative Assessment of U.S. Bulk Power Systems and Market Operations during the COVID-19 Pandemic,” *Applied Energy*, 2021.
- [J72] Guangchun Ruan\*, Dongqi Wu\*, Xiangtian Zheng\*, Haiwang Zhong, Chongqing Kang, Munther A. Dahleh, S. Sivaranjani\*, **Le Xie**, “A Cross-Domain Approach to Analyzing the Short-Run Impact of COVID-19 on the US Electricity Sector,” *Joule*, 2020.
- [J71] M. Sadegh Modarresi\*, Bilal Abadab, S. Sivaranjani\*, **L. Xie**, and Shankararaman Chellam, “Planning of Survivable Nano-grids through Jointly Optimized Water and Electricity: The Case of Colonias at the Texas-Mexico Border,” *Applied Energy*, 2021.
- [J70] K. Zheng, Q. Chen, Y. Wang, C. Kang, and **L. Xie**, “Unsupervised Congestion Status Identification Using LMP Data,” *IEEE Transactions on Smart Grid*, 2021, doi: 10.1109/TSG.2020.3011266.
- [J69] J. Snodgrass\* and L. Xie, "Overvoltage Analysis and Protection of Lightning Arresters in Distribution Systems with Distributed Generation," *International Journal of Electrical Power and Energy Systems*, 2020.
- [J68] J. Ramos\*, Bin Wang\*, Hung-Ming Chou, Prasad Enjeti, and **Le Xie**, “Power Electronics Intelligence at the Network Edge (PINE) – An Approach to Interface PV and Battery Energy Storage Systems at the Grid Edge,” *Journal of Emerging and Selected Topics in Power Electronics*, 2020.
- [J67] T. Huang\*, N. Freris, P. Kumar, and **L. Xie**, “A Synchrophasor Data-driven Method for Forced Oscillation Localization under Resonance Conditions,” *IEEE Transactions on Power Systems*, 2020.
- [J66] H. Ming\*, B. Xia, K. Lee; A. Adepoju; S. Shakkottai, **L. Xie**, “Prediction and Assessment of Demand Response Potential with Coupon Incentives in Highly Renewable Power Systems,” *Protection and Control of Modern Power Systems*, 2020.
- [J65] L. Zhang, B. Wang\*, L. Xie, P. Kumar, and W. Shi, “A Hierarchical Low-Rank Approximation Based Network Solver for EMT Simulation,” *IEEE Transactions on Power Delivery*.
- [J64] Y. Ye\*, Y. Qiao, **L. Xie**, and Z. Lu, “A Comprehensive Power Flow Approach for Multi-terminal VSC-HVDC System Considering Cross-regional Primary Frequency Responses,” *Journal of Modern Power Systems and Clean Energy*, 2020.
- [J63] X. Chen\*, J. Tang, W. Li, and **L. Xie**, “Operational Reliability and Economy Evaluation of Reusing Retired Batteries in Composite Power Systems,” *International Journal of Energy Research*, 2020.

- [J62] Wang, Y., Gan, D., Zhang, N., **Xie, L.** and Kang, C., 2019. Feature selection for probabilistic load forecasting via sparse penalized quantile regression. *Journal of Modern Power Systems and Clean Energy*, 7(5), pp.1200-1209.
- [J61] X. Geng\*, and **L. Xie**, “Data-driven decision making in power systems with probabilistic guarantees: Theory and applications of chance-constrained optimization”, *Annual Reviews in Control*, vol. 47, pp. 341-363, 2019.
- [J60] X. Shi\*, H. Ming\*, S. Shakkottai, **L. Xie**, and J. Yao, “Nonintrusive Load Monitoring in Residential Households with Low-resolution Data,” *Applied Energy*, vol. 252, 113283, Nov. 2019.
- [J59] M. S. Modarresi\*, **L. Xie**, M. Campi, S. Garatti, A. Carè, A. Thatté and P. R. Kumar, “Scenario-based Economic Dispatch with Tunable Risk Levels in High-renewable Power Systems,” in *IEEE Transactions on Power Systems*, vol. 34, no. 6, pp. 5103-5114, Nov. 2019.
- [J58] T. Huang\*, B. Satchidanandan, P. R. Kumar and **L. Xie**, "An Online Detection Framework for Cyber Attacks on Automatic Generation Control," in *IEEE Transactions on Power Systems*, vol. 33, no. 6, pp. 6816-6827, Nov. 2018.
- [J57] J. Li, B. Xie, X. Geng\*, H. Ming\*, S. Shakkottai, V. Subramanian, and **L. Xie**, “Mean Field Games in Nudge Systems for Societal Networks,” *ACM Transactions on Modeling and Performance Evaluation of Computing Systems*, vol. 3, no.4, Sept 2018.
- [J56] A. Halden, X. Geng\*, F. A. Fontes, P. R. Kumar, and **L. Xie**, “Optimal Power Consumption for Demand Response of Thermostatically Controlled Loads,” *Optimal Control, Applications and Methods*, vol. 40, no. 1, pp. 64-84, Jan. 2019.
- [J55] M. Esmalifalak, H. Nguyen, R. Zheng, **L. Xie**, L. Song and Z. Han, "A Stealthy Attack Against Electricity Market Using Independent Component Analysis," in *IEEE Systems Journal*, vol. 12, no. 1, pp. 297-307, March 2018.
- [J54] **L. Xie**, “Data & Analytics Technology (DT): The New Normal,” *IEEE Power and Energy Magazine*, May 2018 (invited, “In My View” article).
- [J53] Z. Ma, H. Zhong, **L. Xie**, Q. Xia, and C. Kang, “Month ahead average daily electricity price profile forecasting based on a hybrid nonlinear regression and SVM model: ERCOT case study,” *Journal of Modern Power Systems and Clean Energy* Vol. 6, Issue 2, pp 281–291, Mar. 2018.
- [J52] J. Kang, **L. Xie** and D. Choi, "Impact of Data Quality in Home Energy Management System on Distribution System State Estimation," in *IEEE Access*, vol. 6, pp. 11024-11037, 2018.
- [J51] S. Feng\*, X. Wu, P. Jiang, **L. Xie** and J. Lei, "Mitigation of Power System Forced Oscillations: An E-STATCOM Approach," in *IEEE Access*, vol. 6, pp. 31599-31608, 2018.

- [J50] H. Ming\*, **L. Xie**, M. C. Campi, S. Garatti and P. R. Kumar, "Scenario-Based Economic Dispatch With Uncertain Demand Response," in *IEEE Transactions on Smart Grid*, vol. 10, no. 2, pp. 1858-1868, March 2019.
- [J49] T. Huang\*, M. Wu and **L. Xie**, "Prioritization of PMU Location and Signal Selection for Monitoring Critical Power System Oscillations," in *IEEE Transactions on Power Systems*, vol. 33, no. 4, pp. 3919-3929, July 2018.
- [J48] R. Singh, P. R. Kumar and **L. Xie**, "Decentralized Control via Dynamic Stochastic Prices: The Independent System Operator Problem," in *IEEE Transactions on Automatic Control*, vol. 63, no. 10, pp. 3206-3220, Oct. 2018.
- [J47] M. Wu\* and **L. Xie**, "Calculating Steady-State Operating Conditions for DFIG-Based Wind Turbines," in *IEEE Transactions on Sustainable Energy*, vol. 9, no. 1, pp. 293-301, Jan. 2018.
- [J46] M. Wu\* and **L. Xie**, "Online Detection of Low-Quality Synchrophasor Measurements: A Data Driven Approach," *IEEE Transactions on Power Systems*, Vol. 32, No. 4, July 2017, pp. 2817-2827.
- [J45] D-H. Choi\* and **L. Xie**, "Impact of Power System Network Topology Errors on Real-Time Locational Marginal Price," *Journal of Modern Power Systems and Clean Energy*, Vol. 5, Issue 5, Sep 2017, pp. 797-809.
- [J44] A. Halder, X. Geng\*, P. R. Kumar, **L. Xie**, "Architecture and Algorithms for Thermal Inertial Load Management by A Load Serving Entity," *IEEE Transactions on Power Systems*, vol. 32, no. 4, pp. 3275-3286, July 2017.
- [J43] X. Geng\* and **L. Xie**, "Learning the LMP-Load Coupling From Data: A Support Vector Machine Based Approach," *IEEE Transactions on Power Systems*, vol. 32, no. 2, pp. 1127-1138, March 2017.
- [J42] D-H. Choi\* and **L. Xie**, "A Framework for Sensitivity Analysis of Data Errors on Home Energy Management System," *Energy*, 2017, pp. 166-175.
- [J41] D-H. Choi\* and **L. Xie**, "Data Perturbation-Based Sensitivity Analysis of Real-Time Look-Ahead Economic Dispatch," *IEEE Transactions on Power Systems*, vol. 32, no. 3, pp. 2072-2082, May 2017.
- [J40] D-H. Choi\* and **L. Xie**, "Economic Impact Assessment of Topology Data Attacks with Virtual Bids," *IEEE Transactions on Smart Grid*, Vol. PP, No. 99, 2017, pp. 1-9, DOI: 10.1109/TSG.2016.2535246.

- [J39] Y. Zhang\* and L. Xie, "A Transient Stability Assessment Framework in Power Electronic-interfaced Distribution Systems," *IEEE Transactions on Power Systems*, vol. 31, no. 6, pp. 5106-5114, Nov. 2016.
- [J38] E. Mayhorn\*, L. Xie, and K. Butler-Purpy, "Multi-time Scale Coordination of Distributed Energy Resources in Isolated Power Systems," *IEEE Transactions on Smart Grid*, vol. 8, no. 2, pp. 998-1005, March 2017.
- [J37] Y. Gu\* and L. Xie, "Stochastic Look-Ahead Economic Dispatch with Variable Generation Resources," *IEEE Transactions on Power Systems*, vol. 32, no. 1, pp. 17-29, Jan. 2017.
- [J36] A. Thatte\* and L. Xie, "A Metric and Market Construct of Inter-temporal Flexibility in Time-coupled Economic Dispatch," *IEEE Transactions on Power Systems*, vol. 31, no. 5, pp. 3437-3446, Sept. 2016.
- [J35] Y. Zhang\*, K. Ding, and L. Xie, "Interactive Control of Coupled Microgrids for Guaranteed Small Signal Stability," *IEEE Transactions on Smart Grid*, vol. 7, no. 2, pp. 1088-1096, March 2016.
- [J34] M. Wu\*, L. Xie, L. Cheng, and R. Sun, "A Study on the Impact of Wind Farm Spatial Distribution on Power System Sub-synchronous Oscillations," *IEEE Transactions on Power Systems*, vol. 31, no. 3, pp. 2154-2162, May 2016.
- [J33] Y. Bai\*, H. Zhong, Q. Xia, C. Kang, and L. Xie, "A Decomposition Method for Network-constrained Unit Commitment with AC Power Flow Constraints," *Energy*, vol. 88, pp. 595-603, Aug 2015.
- [J32] X. Lai\*, L. Xie, Q. Xia, H. Zhong and C. Kang, "Decentralized Multi-Area Economic Dispatch via Dynamic Multiplier-based Lagrangian Relaxation," *IEEE Transactions on Power Systems*, vol. 30, no. 6, pp. 3225-3233, Nov. 2015.
- [J31] Y. Zhang\* and L. Xie, "Online Dynamic Security Assessment of Microgrid Interconnections in Smart Distribution Systems," *IEEE Transactions on Power Systems*, vol. 30, no. 6, pp. 3246-3254, Nov. 2015.
- [J30] O. Urquidez\* and L. Xie, "Singular Value Sensitivity Based Optimal Control of Embedded VSC-HVDC for Steady-State Voltage Stability Enhancement," *IEEE Transactions on Power Systems*, vol. 31, no. 1, pp. 216-225, Jan. 2016.
- [J29] C. Yang\*, A. Thatte\*, and L. Xie, "Multi-time-scale Data-driven Spatio-temporal Forecast of Photovoltaic Generation," *IEEE Transactions on Sustainable Energy*, vol. 6, no. 1, pp. 104-112, Jan. 2015.
- [J28] G. Lee, Y. Ding, M. G. Genton, and L. Xie, "Power Curve Estimation with Multivariate Environmental Factors for Inland and Offshore Wind Farms," *Journal of the American Statistical Association*, vol. 110, no. 509, pp. 56-67, Jan 2015.

- [J27] O. Urquidez\* and **L. Xie**, “Smart Targeted Locating of VSC based Embedded HVDC via Line Shadow Price Weighting,” *IEEE Transactions on Smart Grid*, vol. 6, no. 1, pp. 431-440, Jan. 2015.
- [J26] H. Zhong\*, Q. Xia, C. Kang, **L. Xie**, W. He, and H. Zhang, “Integrated Dispatch of Generation and Load: A Pathway Towards the Smart Grid,” *Electric Power Systems Research*, vol. 120, pp. 206-213, Mar 2015.
- [J25] **L. Xie**, Y. Chen\*, and P. R. Kumar, “Dimensionality Reduction of Synchrophasor Data for Early Anomaly Detection: Linearized Analysis,” *IEEE Transactions on Power Systems*, Vol. 29, No. 6, pp. 2784-2794, Nov. 2014.
- [J24] D.-H. Choi\* and **L. Xie**, “Sensitivity Analysis of Real-Time Locational Marginal Price to SCADA Sensor Data Corruption,” *IEEE Transactions on Power Systems*, vol. 29, no. 3, pp. 1110-1120, May 2014.
- [J23] G. Lee, Y. Ding, **L. Xie**, and M. G. Genton, “Kernel Plus Method for Quantifying Wind Turbine Performance Upgrades,” *Wind Energy*, vol. 18, no. 7, pp. 1207-1219, Jul 2015.
- [J22] **L. Xie**, Y. Gu\*, X. Zhu, and M. G. Genton, “Short-term Spatio-temporal Wind Power Forecast in Robust Look-ahead Power System Dispatch,” *IEEE Transactions on Smart Grid*, Vol. 5, No. 1, pp. 511-520, Jan 2014.
- [J21] X. Zhu, M. G. Genton, Y. Gu\*, and **L. Xie**, “Space-time wind speed forecasting for improved power system dispatch (with discussion),” *TEST Spanish Society of Statistics and Operations Research*, vol. 23, no. 1, pp. 1-25, Mar 2014.
- [J20] A. Thatte\* and **L. Xie**, D. E. Viassolo, and S. Singh, “Risk Measure based Robust Bidding Strategy for Arbitrage using a Wind Farm and Energy Storage,” *IEEE Transactions on Smart Grid*, Vol. 4, No. 4, pp. 2191-2199, Dec. 2013.
- [J19] Y. Gu\* and **L. Xie**, “Fast Sensitivity Analysis Approach to Assessing Congestion Induced Wind Curtailment,” *IEEE Transactions on Power Systems*, Vol. 29, No. 1, pp. 101-110, Jan 2014.
- [J18] M. Falahi, H.-M. Chou, M. Ehsani, **L. Xie**, and K. Butler-Purry, “Potential Power Quality Benefits of Electric Vehicles,” *IEEE Transactions on Sustainable Energy*, Vol. 4, No. 4, pp. 1016-1023, October 2013.
- [J17] D.-H. Choi\* and **L. Xie**, “Ramp-induced Data Attacks on Look-ahead Dispatch in Real-time Power Markets,” *IEEE Transactions on Smart Grid*, Vol. 4, No. 3, pp. 1235-1243, September 2012.
- [J16] H. Zhong\*, **L. Xie**, and Q. Xia, “Coupon Incentive-based Demand Response: Theory and Case Study,” *IEEE Transactions on Power Systems*, Vol. 28, No. 2, pp. 1266-1276, May 2013.

- [J15] Y. Gu\* and **L. Xie**, “Early Detection and Optimal Corrective Measures of Power System Insecurity in Enhanced Look-ahead Dispatch,” *IEEE Transactions on Power Systems*, Vol. 28, No. 2, pp. 1297-1307, May 2013.
- [J14] **L. Xie**, D.-H. Choi\*, S. Kar, and H. V. Poor, “Fully Distributed State Estimation for Wide-Area Monitoring Systems,” *IEEE Transactions on Smart Grid*, Vol. 3, No. 3, pp. 1154 - 1169, September 2012.
- [J13] **L. Xie**, Y. Chen\*, and H. Liao, “Distributed online monitoring of quasi-static voltage collapse in multi-area power systems,” *IEEE Transactions on Power Systems*, Vol. 27, No. 4, pp. 2271-2279, Nov 2012.
- [J12] A. Thatté\* and **L. Xie**, “Towards a Unified Operational Value Index of Energy Storage in Smart Grid Environment,” *IEEE Transactions on Smart Grid*, Vol. 3, No. 3, pp. 1418 - 1426, September 2012.
- [J11] S. Wang, L. Cui, J. Que, D.-H. Choi\*, X. Jiang, S. Cheng and **L. Xie**, “A Randomized Response Model for Privacy Preserving Smart Metering,” *IEEE Transactions on Smart Grid*, Vol. 3, No. 3, pp. 1317 - 1324, September 2012.
- [J10] **L. Xie**, Y. Gu, A. Eskandari, and M. Ehsani, “Fast MPC-based coordination of wind power and battery energy storage systems,” *Journal of Energy Engineering*, Vol. 138, pp. 43-43, June 2012.
- [J9] L. Rao, X. Liu, **L. Xie**, and W. Liu, “Coordinated Energy Cost Management of Distributed Internet Data Centers in Smart Grid,” *IEEE Transactions on Smart Grid*, Vol. 3, No. 1, pp. 50 - 58, March 2012.
- [J8] Lei Rao, Xue Liu, **L. Xie**, Zhan Pang, “Hedging Against Uncertainty: A Tale of Internet Data Center Operations Under Deregulated Electricity Market,” *IEEE Transactions on Smart Grid*, Vol. 2, No. 3, pp. 555-563, Sep 2011.
- [J7] **L. Xie**, Y. Mo, and B. Sinopoli, “Integrity Data Attacks in power market operations,” *IEEE Transactions on Smart Grid*, Vol. 2, No. 4, pp. 659-666, Dec 2011.
- [J6] M.D. Ilić, **L. Xie** and J. Joo, “Efficient coordination of wind power and price-responsive demand Part I: theoretical foundations,” *IEEE Transactions on Power Systems*, Vol. 26, No. 4, pp. 1875-1884, Nov 2011.
- [J5] M.D. Ilić, **L. Xie** and J. Joo, “Efficient coordination of wind power and price-responsive demand Part II: case studies,” *IEEE Transactions on Power Systems*, Vol. 26, No. 4, pp. 1885-1893, Nov 2011.

[J4] **L. Xie**, P. M. S. Carvalho, L. A. F. M. Ferreira, J. Liu, B. Krogh, N. Popli, and M. D. Ilić, "Wind energy integration in power systems: operational challenges and possible solutions," *Proceedings of the IEEE*, Vol. 99, No. 1, pp. 214 - 232, January 2011.

[J3] M.D. Ilić, J. Joo, **L. Xie** and M. Prica, "A decision making framework and simulator for sustainable electric energy systems," *IEEE Transactions on Sustainable Energy* Vol. 2, No. 1, pp. 37 - 49, January 2011.

[J2] M. D. Ilić, **L. Xie**, U. A. Khan and J. M. F. Moura, "Modeling, sensing and control of future cyber-physical energy systems," *IEEE Transactions on Systems, Man and Cybernetics: Part A: Systems and Humans*, Vol. 40, No. 4, pp. 825-838, July 2010.

[J1] **L. Xie** and M. D. Ilić, "Structure-preserving dynamical model and distributed stabilization of electricity infrastructures with renewable energy resources," *International Journal of Critical Infrastructures*, Vol. 6, No. 2, pp. 131-147, 2010.

### **Peer-Reviewed Conference Publications**

[C129] D. Kim\*, A.K. Karngala\*, and **L. Xie**, "Estimation of Peak Demand Reduction Using Smart Thermostats: A Texas Case Study," 2025 IEEE PES Grid Edge Technologies Conference & Exposition (Grid Edge), pp. 1-5, 2025.

[C128] F.H. Sneha, Y. Liu, **L. Xie**, and T. Xia, "Grid Stability and Cybersecurity Challenges in Electric Vehicle Integration: A Case Study of the ERCOT System," Proceedings of the 58th Hawaii International Conference on System Sciences, 2025.

[C127] S. Majumder\*, I. Aravena, and **L. Xie**, "An Econometric Analysis of Large Flexible Cryptocurrency-Mining Consumers in Electricity Markets," Proceedings of the 58th Hawaii International Conference on System Sciences, 2025.

[C126] J. Kim, M. Ilic, and **L. Xie**, "A Framework for Cyber-Secure Monitoring and Safe Operation of Solar PV Microgrids," 2024 IEEE Energy Conversion Congress and Exposition (ECCE), pp. 1765-1772, 2024.

[C125] F. Doudi\*, X. Liu, A. Menati\*, D. Fu, P. Chang, and **L. Xie**, "Impact of Simulated Climate Data on Wind Power Prediction and Long-Term Grid Planning," 2024 56th North American Power Symposium (NAPS), pp. 1-6, 2024.

[C124] A. Samanta\*, S. Majumder\*, H. Ibrahim, P. Enjeti, and **L. Xie**, "Electromagnetic Transient Model of Cryptocurrency Mining Loads for Low-Voltage Ride Through Assessment in Transmission Grids," 2024 IEEE Power & Energy Society General Meeting (PESGM), pp. 1-5, 2024.

- [C123] M. Zeid, S. Majumder\*, H. Ibrahim, P. Enjeti, **L. Xie** and C. Tian, "Predicting DC-Link Capacitor Current Ripple in AC-DC Rectifier Circuits Using Fine-Tuned Large Language Models," IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society, Chicago, IL, USA, 2024, pp. 1-6.
- [C122] A.K. Karngala\*, C. Singh, and **L. Xie**, "SARI: Quantifying the Impact of Edge Level Distributed Energy Resources on Utility Revenue," 2024 18th International Conference on Probabilistic Methods Applied to Power Systems (PMAPS), 2024.
- [C121] A. Shukla\*, Q. Zhang\*, and **L. Xie**. "Sample Complexity of Chance Constrained Optimization in Dynamic Environment," 2024 American Control Conference (ACC), 2024.
- [C120] A. Jena\*, D. Kalathil, and **L. Xie**. "Meta-learning-based adaptive stability certificates for dynamical systems," Proceedings of the AAAI Conference on Artificial Intelligence, 2024.
- [C119] J. Kim, H. Ibrahim, S. Wang, A. Mete, **L. Xie**, P. Enjeti, and P.R. Kumar. "Cyber-Secure and Safe Operation of Solar Photovoltaic Power Distribution Systems," IEEE Applied Power Electronics Conference and Exposition (APEC), 2024.
- [C118] A. Samanta\*, Q. Zhang\*, and **L. Xie**. "Prediction of Cryptocurrency Mining Load Tripping Through Learning-Based Fault Classification," IEEE Texas Power and Energy Conference (TPEC), 2024.
- [C117] A. Shukla\*, R. Helou\*, and **L. Xie**. "Voltage Constrained Heavy Duty Vehicle Electrification: Formulation and Case Study," *IEEE Conference on Decision and Control (CDC)*, 2023.
- [C116] A. Menati\*, Y. Cai\*, R. El Helou\*, C. Tian, and **L. Xie**, "Optimization of Cryptocurrency Mining Demand for Ancillary Services in Electricity Marke," *Hawaii International Conference on System Sciences (HICSS)*, 2024.
- [C115] Z. Wang, W. Shi, J. Hu, and **L. Xie**, "A Parallel Approach for Solving Network Equations in EMT simulation Based on Branch Partition," *North American Power Symposium (NAPS)*, 2023.
- [C114] D. Kim\*, S. Majumder\*, and **L. Xie**, "Line-Post Insulator Fault Classification Model using Deep Convolutional GAN-based Synthetic Images," *North American Power Symposium (NAPS)*, 2023.
- [C113] B. Wang\*, D. Wu, X. Su, K. Sun, and **L. Xie**, "A Long-Term Voltage Stability Margin Index Based on Multiple Real Power Flow Solutions," *2023 IEEE PES General Meeting*, (**Prized Paper Award**)



- [C112] X. Zheng\*, S. Kotamarty, K. Thuerwaechter, A. Lee, S.-H. Huang, and **L. Xie**, "A Generalized Approach to Contingency Screening with System Islanding," *Hawaii International Conference on System Sciences (HICSS)*, 2023.
- [C111] D. Wu\*, D. Kalathil, M. Begovic, and **L. Xie**, "PyProD: A Machine Learning-Friendly Platform for Protection Analytics in Distribution Systems," *Hawaii International Conference on System Sciences (HICSS)*, 2022.
- [C110] R. Shi\*, A. Menati\*, and **L. Xie**, "Non-intrusive Monitoring of Edge-level Cryptocurrency Mining in Power Distribution Grids." IEEE PES Grid Edge Technologies Conference & Exposition, 2023.
- [C109] H. Ibrahim, J. Kim, P. Enjeti, P. R. Kumar and **L. Xie**, "Detection of Cyber Attacks in Grid-tied PV Systems Using Dynamic Watermarking," 2022 IEEE Green Technologies Conference (GreenTech), 2022, pp. 57-61, doi: 10.1109/GreenTech52845.2022.9772036.
- [C108] Amit Jena\*, Tong Huang\*, S Sivaranjani\*, Dileep Kalathil, **Le Xie**, "Distributed Learning-Based Stability Assessment for Large Scale Networks of Dissipative Systems," *2021 60th IEEE Conference on Decision and Control (CDC)*.
- [C107] Jorge Ramos-Ruiz\*, Jaewon Kim, Woo-Hyun Ko, Tong Huang\*, Prasad Enjeti, P. R. Kumar, and **Le Xie**, "An Active Detection Scheme for Cyber Attacks on Grid-tied PV Systems," *2020 IEEE CyberPELS (CyberPELS)*.
- [C106] Jorge Ramos-Ruiz\*, Hasan Ibrahim, Jaewon Kim, Woo Hyun Ko, Tong Huang\*, Prasad Enjeti, P. R. Kumar, and **Le Xie**, "Validation of a Robust Cyber Shield for a Grid Connected PV Inverter System via Digital Watermarking Principle," *2021 IEEE 12th International Symposium on Power Electronics for Distributed Generation Systems (PEDG)*.
- [C105] A. Menati\* and **L. Xie**, "Preliminary Study of the Energy Storage Role in Mitigating the 2021 Texas Power Outage," *2021 North American Power Symposium*.
- [C104] A. Schaper\* and **L. Xie**, "A Conceptual Model for Analyzing the Impact of Natural Gas on Electricity Generation Failure during the 2021 Texas Power Outage," *2021 North American Power Symposium*.
- [C103] Xinbo Geng\*, Lang Tong, Anirban Bhattacharya, Bani Mallick, and **L. Xie**, "Probabilistic Hosting Capacity Analysis via Bayesian Optimization," *IEEE Power and Energy Society General Meeting, July 2021*.
- [C102] Lu Zhang, Bin Wang\*, Vivek Sarin, Weiping Shi, P. R. Kumar, **Le Xie**, "An Efficient Network Solver for Electromagnetic Transient Simulation of Power Systems Based on Hierarchical Inverse Computation and Modification," *2021 North American Power Symposium*.

- [C101] J. Ramos-Ruiz\*, H. Ibrahim, J. Kim, T. Huang\*, P. Enjeti, **L. Xie**, and, P. Kumar, "Validation of a Robust Cyber Shield for a Grid Connected PV Inverter System via Digital Watermarking Principle," *2021 IEEE 12th International Symposium on Power Electronics for Distributed Generation Systems (PEDG)*.
- [C100] J. Ramos-Ruiz\*, J. Kim, W. Ko, T. Huang, P. Enjeti, P. Kumar, and **L. Xie**, "An Active Detection Scheme for Cyber Attacks on Grid-tied PV Systems," in *IEEE CyberPELS*, Miami, FL, USA, 2020, pp. 1-6
- [C99] D. Syed, H. Abu-Rub, S. S. Refaat, and **L. Xie**, "Detection of Energy Theft in Smart Grids using Electricity Consumption Patterns," *2020 IEEE International Conference on Big Data*.
- [C98] T. Huang\*, S. Gao. X. Long, and **L. Xie**, "A Neural Lyapunov Approach to Transient Stability Assessment in Interconnected Microgrids," *Hawaii International Conference on System Sciences (HICSS)*, 2021 (**The Best Paper Award**)
- [C97] Dongqi Wu\*, Xiangtian Zheng\*, Dileep Kalathil, **Le Xie**, "Nested Reinforcement Learning Based Control for Protective Relays in Power Distribution Systems", *IEEE Conference on Decision and Control (CDC)*, December, 2019.
- [C96] R. El-Helou\*, Dileep Kalathil, and **L Xie**, "Communication-free Voltage Regulation in Distribution Networks with Deep PV Penetration", 53rd Hawaii International Conference on System Sciences (HICSS), January, 2021.
- [C95] S Sivaranjani\*, **L. Xie**, and P. R. Kumar, "A Privacy Preserving Model-Free Optimization and Control Framework for Demand Response from Residential Thermal Loads," *59th IEEE Conference on Decision and Control (CDC 2020)*, invited.
- [C94] S Sivaranjani\*, Etika Agarwal, **Le Xie**, Vijay Gupta, Panos J. Antsaklis, "Mixed Voltage Angle and Frequency Droop Control for Transient Stability of Interconnected Microgrids with Loss of PMU Measurements," *American Control Conference*, 2020.
- [C93] T. Huang\*, B. Wang\*, J. Ramos-Ruiz, P. Enjeti, P. R. Kumar, and **L. Xie**, "Detection of Cyber Attacks in Renewable-rich Microgrids Using Dynamic Watermarking," *IEEE Power and Energy Society General Meeting*, 2020.
- [C92] T. Huang\*, H. Sun, K. Kim, D. Nikovski, and **L. Xie**, "A Holistic Framework for Parameter Coordination of Interconnected Microgrids against Disasters," *IEEE Power and Energy Society General Meeting*, 2020, Montreal, Canada. (**The Best Paper Award**)
- [C91] S. Modarresi, L. Xie, A. Vargas, B. Abada, S. Chellam and B. McCarl, "Water Energy Nexus for Life: Case Study of Texas Colonias," *Applied Energy Symposium: MIT A+B*, May, 2019, Boston, MA.
- [C90] B. Wang\*, J. Ramos-Ruiz, **L. Xie**, and P. Enjeti, "Dynamic Impact of Power Electronics Converters at the Grid Edge," *Applied Energy Symposium: MIT A+B*, May, 2019, Boston, MA.

- [C89] X. Geng\*, and **L. Xie**; “Chance-constrained Unit Commitment via the Scenario Approach,” in *Proceedings of the 51st North American Power Symposium (NAPS)*, Wichita, Kansas, 2019.
- [C88] C. Yan\*, X. Geng\*, **L. Xie**, and Z. Bie: “A Scenario-based Storage Planning Framework with Probabilistic Guarantees,” *2019 IEEE Sustainable Power & Energy Conference*, Beijing, China. (**Best Paper Award**)
- [C87] C. Huang, Z. Yan, J. Yun, **L. Xie**, and Y. Li\*: “Enhanced Real-time Electricity Price Prediction with a Novel Feature Selection Technique,” *2019 IEEE Sustainable Power & Energy Conference*, Beijing, China. (**Best Paper Award**)
- [C86] B. Wiseman\* and **L. Xie**, "Quantifying the Effect of Air Conditioning Dynamics on Power System Transient Stability Limits," *2019 IEEE Texas Power and Energy Conference (TPEC)*, College Station, TX, USA, 2019, pp. 1-6.
- [C85] X. Zheng\*, Bin Wang\*, and **L. Xie**, “Synthetic dynamic PMU data generation: a generative adversarial network approach,” *2019 First IEEE International Conference on Smart Grid Synchronized Measurements and Analytics*, 2019.
- [C84] W. Li, T. Huang\*, N. Freris, P. Kumar, and **L. Xie** “Data-driven Localization of Forced Oscillations in Power Systems,” in *IEEE PES Innovative Smart Grid Technologies Asia (ISGT Asia)*, 2019.
- [C83] X. Geng\*, S. Gupta, and **L. Xie**, “Robust Look-ahead Three-phase Balancing of Uncertain Distribution Loads,” *Hawaii International Conference on System Sciences (HICSS)*, 2019. (**ISSIP-IBM-CBA Student Paper Award**)
- [C82] R. El Helou\* and **L. Xie**, “Online Frequency Response Identification using Synchrophasor Data,” *2018 IEEE International Conference on Probabilistic Methods Applied to Power Systems (PMAPS)*.
- [C81] Y. Zhou\*, J. Cisneros-Saldana, and **L. Xie**, “False Analog Data Injection Attack Towards Topology Errors: Formulation and Feasibility Analysis,” *IEEE Power and Energy Society General Meeting*, 2018.
- [C80] X. Geng\*, D. Obadina, and **L. Xie**, “Chance Constrained Optimal Reactive Power Dispatch,” *IEEE Power and Energy Society General Meeting*, 2018.
- [C79] X. Zheng\*, X. Geng\*, **L. Xie**, D. Liang, L. Yang, and S. Cui, “A SVM-based Setting of Protection Relays in Distribution Systems,” *IEEE Texas Power and Energy Conference*, 2018
- [C78] Y. Ye\*, Z. Lu, **L. Xie**, and Y. Qiao, “A Coordinated Frequency Regulation Strategy for VSC-HVDC Integrated Offshore Wind Farms,” *IEEE Power and Energy Society General Meeting*, 2018

- [C77] B. Xia, M. Hao Ming, K. Lee, Y. Li, Y. Zhou, S. Bansal, S. Shakkottai, and L. Xie. "EnergyCoupon: A Case Study on Incentive-based Demand Response in Smart Grid." In *Proceedings of the Eighth International Conference on Future Energy Systems*, pp. 80-90. ACM, 2017 (**Best Paper Award Finalist**)
- [C76] H. Chou\*, **L. Xie**, P. Enjeti, and P. R. Kumar, "Power Electronics Intelligence at the Network Edge," *The IEEE Energy Conversion Congress and Exposition*, 2017.
- [C75] V. S. S. Kumar\*, **L. Xie**, and P. R. Kumar, "An Analytical Approach for Loss Minimization and Voltage Profile Improvement in Distribution Systems with Renewable Energy Resources," *IREP Symposium 2017*.
- [C74] M. Sadegh Modarresi\*, **L. Xie**, and C. Singh, "Reserves from Controllable Swimming Pool Pumps: Reliability Assessment and Operational Planning," *Hawaii International Conference on System Sciences (HICSS)*, 2018.
- [C73] X. Geng\*, D. Obadina, and **L. Xie**, "Voltage Security Constrained Look-ahead Coordination of Reactive Power Support Devices with High Renewables," The 2017 Intelligent Systems Application to Power Systems (*ISAP*) Conference, Sep 2017.
- [C72] H. Ming\* and **L. Xie**, "A Semi-Analytical Method to Solve Chance Constrained Stochastic Economic Dispatch with Demand Response Providers," The 2017 Intelligent Systems Application to Power Systems (*ISAP*) Conference, Sep 2017.
- [C71] Y. Zhou\* and **L. Xie**, "Detection of Bad Data in Multi-area State Estimation," *IEEE Texas Power and Energy Conference*, Feb 2017. (**Winner of First Prize Paper**).
- [C70] M. Sadegh Modarresi\*, T. Huang\*, H. Ming\*, and **L. Xie**, "Robust Phase Detection in Distribution Systems," *IEEE Texas Power and Energy Conference*, Feb 2017.
- [C69] H. Huang\*, Y. Hu, S. Liu, and **L. Xie**, "A recursive Bayesian approach to load phase detection in unbalanced distribution system," *IEEE Texas Power and Energy Conference*, Feb 2017.
- [C68] M. Wu\* and **L. Xie**, "Online Detection of False Data Injection Attacks to Synchrophasor Measurements: A Data-Driven Approach," *Hawaii International Conference on System Sciences (HICSS)*, 2017.
- [C67] M. Wu\* and **L. Xie**, "Online Identification of Bad Synchrophasor Measurements via Spatio-temporal Correlations," in 2016 *Power Systems Computation Conference (PSCC)*, Italy.
- [C66] B. Wiseman\*, Y. Chen\*, **L. Xie**, and P. R. Kumar, "PMU-based Reduced-order Modeling of Power System Dynamics via Selective Modal Analysis," *IEEE Transmission & Distribution Conference & Exposition Proceedings*, 2016.

- [C65] Yang Chen\*, Harish Chintakunta, **Le Xie**, Yuliy Baryshnikov, P. R. Kumar, “Persistent-Homology-based Detection of Power System Low-frequency Oscillations using PMUs,” 2016 IEEE GlobalSIP Symposium on Signal and Information Processing for Smart Grid Infrastructures, Dec 2016.
- [C64] H. Ming\*, and **L. Xie**, “Revenue Adequacy of Wholesale Electricity Markets with Demand Response Providers,” *IEEE Power and Energy Society General Meeting*, 2016.
- [C63] A. Thatte\*, Y. Li\*, and **L. Xie**, “Managing System Ramp Flexibility by Utilizing Price-Responsive Demand: An Empirical Assessment,” *Hawaii International Conference on System Sciences*, 2016.
- [C62] Jian Li, Bainan Xia, Xinbo Geng\*, Hao Ming\*, Srinivas Shakkottai, Vijay Subramanian, and **Le Xie**. “Energy Coupon: A Mean Field Game Perspective on Demand Response in Smart Grids,” ACM SIGMETRICS. 2015.
- [C61] R. Singh, **L. Xie**, and P. R. Kumar, “On Storage and Renewables: A Theory of Sizing and Uncertainty,” *IEEE Power and Energy Society General Meeting*, 2015.
- [C60] A. Thatte\* and **L. Xie**, “A Robust Model Predictive Control Approach to Coordinating Wind and Storage for Joint Energy Balancing and Frequency Regulation Services,” *IEEE Power and Energy Society General Meeting*, 2015.
- [C59] X. Geng\* and **L. Xie**, “A Data-driven Approach to Identifying System Pattern Regions in Market Operations,” *IEEE Power and Energy Society General Meeting*, 2015.
- [C58] S. Chang\*, **L. Xie**, and J. Dumas, “A Reserve Forecast-based Approach to Determining Credit Collateral Requirements in Electricity Markets,” *IEEE Power and Energy Society General Meeting*, 2015.
- [C57] J. An, P. R. Kumar, and **L. Xie**, “On Transfer Function Modeling of Price Responsive Demand: An Empirical Study,” *IEEE Power and Energy Society General Meeting*, 2015.
- [C56] H. Zhong, **L. Xie**, Q. Xia, C. Kang, and S. Rahman, “Multi-stage coupon incentive-based demand response in two-settlement electricity markets,” *Proceedings of the Sixth Conference on Innovative Smart Grid Technologies (ISGT 2015)*.
- [C55] R. Singh, K. Ma, A. Thatte\*, P. R. Kumar, and **L. Xie**, “A theory for the economic operation of a smart grid with stochastic renewables, demand response and storage,” *IEEE 54<sup>th</sup> Conference on Decision and Control*, 2015.
- [C54] S. Gao, **L. Xie**, A. Solar-Lezama, D. Serpanos, and H. Shrobe, “Automated Vulnerability Analysis of AC State Estimation under Constrained False Data Injection in Electric Power Systems,” *IEEE 54<sup>th</sup> Conference on Decision and Control*, 2015.

- [C53] A. Thatte\* and **L. Xie**, “A Two-layered Framework for Robust Dispatch with Transmission Constraints,” *Hawaii International Conference on System Sciences*, 2015.
- [C52] Y. Chen\*, **L. Xie**, and P. R. Kumar, “Integrating PMU data-driven and physics-based analytics for power system operations,” *Asilomar Conference on Signals, Systems, and Computers*, Nov 2014 (invited).
- [C51] Y. Chen\*, **L. Xie**, and P. R. Kumar, “Power System Event Classification via Dimensionality Reduction of Synchrophasor Data,” *Eighth IEEE Sensor Array and Multichannel Signal Processing Workshop*, June 2014.
- [C50] O. Urquidez\* and **L. Xie**, “Rectangular Representation of FACTS Devices in the ACOPF Problem,” North American Power Symposium, Pullman, WA, 2014.
- [C49] H. Ming\* and **L. Xie**, “Analysis of Coupon Incentive-Based Demand Response with Bounded Consumer Rationality,” North American Power Symposium, Pullman, WA, 2014.
- [C48] A. Thatte\*, D-H. Choi\*, and **L. Xie**, “Analysis of Locational Marginal Prices in Look-Ahead Economic Dispatch,” 18<sup>th</sup> Power System Computation Conference, Wroclaw, Poland, 2014.
- [C47] K. Ma, **L. Xie**, and P. R. Kumar, “A Layered Architecture for EV Charging Stations Based on Time Scale Decomposition,” *IEEE SmartGridComm*, 2014.
- [C46] G. Sharma, **L. Xie**, and P. R. Kumar, “Optimal demand response for thermal inertial loads employing stochastic renewables: A privacy respecting architecture and its continuum scaling limit,” *IEEE 53<sup>rd</sup> Conference on Decision and Control*, 2014.
- [C45] Q. Yan, I. Manickam, M. Kezunovic, and **L. Xie**, “A multi-tiered real-time pricing algorithm for electric vehicle charging stations,” *IEEE Transportation Electrification Conference*, June 2014.
- [C44] X. Lai\*, Q. Xia, and **L. Xie**, “Inter-area Power Exchange Preserving Multi-area Economic Dispatch,” *IEEE Power and Energy Society General Meeting*, July 2014.
- [C43] M. S. Modarresi \* and **L. Xie**, “An Operating Reserve Risk Map for Quantifiable Reliability Performances in Renewable Power Systems,” *IEEE Power and Energy Society General Meeting*, July 2014.
- [C42] A. Thatte\*, X. Sun, and **L. Xie**, “Robust Optimization Based Economic Dispatch for Managing System Ramp Requirement,” *Hawaii International Conference on System Sciences*, 2014.

- [C41] G. Sharma, **L. Xie**, and P. R. Kumar, “Optimal Demand Response: Continuum Limit of a Privacy-Based Architecture,” *51st Annual Allerton Conference on Communication, Control, and Computing*, 2013 (invited).
- [C40] S. Zhao, **L. Xie**, and C. Singh, “Cross-Correlation Study of Onshore/Offshore Wind Generation and Load in Texas,” *2013 North American Power Symposium*.
- [C39] G. Sharma, **L. Xie**, and P. R. Kumar, “On the Optimality of De-Synchronized Demand Response with Stochastic Renewables and Inertial Thermal Loads,” *52nd IEEE Conference on Decision and Control (CDC 2013)*, invited).
- [C38] G. Sharma, **L. Xie**, and P. R. Kumar, “Large population optimal demand response for thermostatically controlled inertial loads,” *IEEE SmartGridComm 2013*.
- [C37] D.-H. Choi\* and **L. Xie**, “Impact Analysis of Locational Marginal Price Subject to Power System Topology Errors,” *IEEE SmartGridComm 2013*.
- [C36] Y. Gu\*, X. Wang, and **L. Xie**, “Horizontal Decomposition-based Stochastic Day-ahead Reliability Unit Commitment,” *IEEE Power and Energy Society General Meeting 2013*.
- [C35] Y. Zhang\*, Y. Chen\*, and **L. Xie**, “Multi-scale Integration and Aggregation of Power System Modules for Dynamic Security Assessment,” *IEEE Power and Energy Society General Meeting 2013*.
- [C34] Y. Chen\*, **L. Xie**, and P. R. Kumar, “Dimensionality reduction and early event detection using online synchrophasor data,” *IEEE Power and Energy Society General Meeting 2013*.
- [C33] **L. Xie**, L. Cheng, and Y. Gu\*, “Reliability Assessment at Day-ahead Operating Stage in Power Systems with Wind Generation,” *Hawaii International Conference on System Sciences*, 2013.
- [C32] D.-H. Choi\* and **L. Xie**, “Malicious Ramp-induced Temporal Data Attack in Power Market with Look-ahead Dispatch,” *Proceedings of IEEE SmartGridComm 2012* (**The Best Paper Award**).
- [C31] C. Yang\*, and **L. Xie**, “A Novel ARX-based Multi-scale Spatiotemporal Solar Power Forecast Model,” *North American Power Symposium*, 2012
- [C30] O. A. Urquidez\*, and **L. Xie**, “Targeted Conversion of AC lines to DC lines for Improved Power System Dispatch,” *North American Power Symposium*, 2012 (**The Best Paper Award**).
- [C29] A. A. Thatte\*, **L. Xie** and D. E. Viassolo, “Robust optimization based bidding strategy for wind power plants and energy storage in electricity markets,” *2012 IEEE Power and Energy Society General Meeting* (invited).



- [C28] Y. Gu\* and **Le Xie**, “Look-ahead dispatch with forecast uncertainty and infeasibility management,” *2012 IEEE Power and Energy Society General Meeting*
- [C27] H. Zhong\*, **Le Xie**, and Q. Xia, “Coupon Incentive-based Demand Response (CIDR) in Smart Grid,” *2012 IEEE Power and Energy Society General Meeting*.
- [C26] **L. Xie**, Y. Zhang\*, and M. Ilic, “Multi-scale Integration of Physics-based and Data-driven Models in Power Systems,” *ACM/IEEE Third International Conference on Cyber-Physical Systems*, Beijing, China, April 2012 (invited).
- [C25] A. A. Thatte\*, F. Zhang\* and **Le Xie**, “Frequency Aware Economic Dispatch,” *2011 North American Power Symposium*.
- [C24] Y. Gu\*, **L. Xie**, B. Rollow, and B. Hesselbaek, “Congestion-induced Wind Curtailment: Sensitivity Analysis and Case Studies,” *2011 North American Power Symposium*.
- [C23] D.-H. Choi\* and **L. Xie**, “Distributed Bad Data Processing for Wide Area State Estimation,” *Proceedings of IEEE SmartGridComm 2011*.
- [C22] **L. Xie**, Y. Gu\*, X. Zhu, and M. G. Genton, “Power system economic dispatch with spatio-temporal wind forecasts,” *Proceedings of IEEE EnergyTech 2011*.
- [C21] **L. Xie**, A. A. Thatte\*, and Y. Gu\*, “Multi-time-scale modeling and analysis of energy storage in power system operations,” *Proceedings of IEEE EnergyTech 2011*.
- [C20] **L. Xie**, D.-H. Choi\*, and S. Kar, “Cooperative distributed state estimation: local observability relaxed,” *IEEE Power and Energy Society (PES) General Meeting*, 2011.
- [C19] A. Thatte\*, F. Zhang\*, and **L. Xie**, “Coordination of wind farms and flywheels for energy balancing and frequency regulation,” *IEEE PES General Meeting*, 2011.
- [C18] **L. Xie**, X. Luo, and O. Obadina, “Quantifying the benefits of look-ahead dispatch in ERCOT systems,” *IEEE PES General Meeting*, 2011 (**Invited Panel Paper**).
- [C17] X. Jiang, B. Dong, **L. Xie**, and L. Sweeney, “Adaptive Gaussian process for short-term wind speed forecasting,” *19th European Conference on Artificial Intelligence (ECAI)*, 2010.
- [C16] S. Lotfifard, **L. Xie**, and M. Kezunovic, “Quantifying the impact of unscheduled line outages on locational marginal prices,” *North American Power Symposium 2010*
- [C15] Y. Xu, **L. Xie**, and C. Singh, “Optimal scheduling and operation of load aggregator with electric energy storage in power markets,” *North American Power Symposium 2010*
- [C14] Y. Gu\*, and **L. Xie**, “Look-ahead coordination of wind energy and electric vehicles: a market-based approach,” *North American Power Symposium*, 2010.



- [C13] **L. Xie**, Y. Mo, and B. Sinopoli, “False data injection attacks in electricity markets,” *2010 First International Conference on Smart Grid Communications*, 2010 ([MIT Technology Review Featured](#)).
- [C12] L. Rao, X. Liu, **L. Xie**, and W. Liu, “Reducing electricity cost: optimization of distributed Internet data centers in a multi-electricity-market environment,” *Proceedings of IEEE INFOCOM*, San Diego, CA, March 2010.
- [C11] **L. Xie** and M. D. Ilić, “Carbon-concerned economic dispatch: possible formulations and implementations,” *IEEE PES Transmission and Distribution Conference and Exposition*, New Orleans, April 2010.
- [C10] **L. Xie**, J. Joo, and M. D. Ilić, “Integration of intermittent resources with price-responsive loads,” *North American Power Symposium*, October 2009.
- [C9] **L. Xie** and M. D. Ilić, “Model predictive economic/environmental dispatch of power systems with intermittent resources,” *IEEE PES General Meeting*, Calgary, Canada, July 2009.
- [C8] **L. Xie** and M. D. Ilić, “A module-based approach to integrating wind power for guaranteed power system stability,” *First IEEE International Conference on Infrastructure Systems (NGInfra)*, Rotterdam, The Netherlands, November 2008.
- [C7] **L. Xie** and M. D. Ilić, “Model predictive dispatch in electric energy systems with intermittent resources,” *IEEE International Conference on Systems, Man, and Cybernetics*, Singapore, October 2008 ([Invited Paper](#)).
- [C6] **L. Xie** and M. D. Ilić, “Module-based modeling of cyber-physical power systems,” *International Workshop on Cyber-Physical Systems*, Beijing, 2008.
- [C5] M. D. Ilić, **L. Xie**, U. A. Khan, and J.M.F. Moura, “Modeling future cyber-physical energy systems,” *IEEE PES General Meeting*, Pittsburgh, PA, July 2008.
- [C4] **L. Xie**, J. Ilić and M. D. Ilić, “Novel performance index and multi-layered information structure for monitoring quasi-static voltage problems,” *IEEE PES General Meeting*, Tampa, FL, June 2007.
- [C3] **L. Xie** and M. D. Ilić, “Dynamic aggregation for monitoring and decision making in electric power systems,” *International Workshop and Conference on Network Sciences*, New York City, NY, May 2007.
- [C2] **L. Xie**, J. Ilić and M. D. Ilić, “Towards grid modernization through enhanced communications and computing: novel performance index and information structure for monitoring voltage problems,” *North American Power Symposium (NAPS)*, 2006.
- [C1] J. Ilić, **L. Xie** and M. D. Ilić, “Critical voltage monitoring using sensitivity and optimal information machine learning,” *NAPS*, September 2006.

## **Policy and Opinion Pieces (2)**

[Op-Ed 2] **L. Xie**, Chanan Singh, Sanjoy K. Mitter, Munther A. Dahleh, and Shmuel S. Oren, “Building a resilient, carbon-neutral electric grid requires energy 'superhighways',” *The Hill*, July 2021.

[Op-Ed 1] **L. Xie**, M. Barteau, C. Singh, and E. Pistikopoulos, “Opinion: What went wrong with Texas's power failure and how to fix it,” *Houston Chronicle*, Feb. 2021