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 Loebl 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.

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

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

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

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

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-Carleton 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

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

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

Role: Technical Committee Chair

2016 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)

Role: Program Committee Member

2011 The 2011 IEEE SmartGridComm
Role: Technical Program Committee Member

2010 The 2010 IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing
Role: Program Committee Member

2010 National Science Foundation I/UCRC Workshop on Transportation and Electricity Convergence
Role: Organizing Committee Chair

2009 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
3rd 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
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[IC-26] "Towards Real-time Learning and Decision Making in Energy Systems"
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[IC-25] "Energy Coupon: Demand Response Analytics with Human in the Loop," ***(Plenary Talk)***, *19th 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
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Sivaranjani Sivaranjani*, **Le Xie**, and Panganamala R. Kumar

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

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