

# Jonathan M. Snodgrass

## Research Areas

Active Topics	Electric power systems planning and optimization, Transmission and distribution system co-simulation, Electric vehicle integration, Grid resilience, GMD and EMP analysis and mitigation, Electric transmission network planning, Optimal power flow, Integration of renewable energy resources, Smart grids
Research Interests	Protective relaying, Energy markets, Microgrids

## Education

12/2021, 12/2018	<b>PhD and Master of Science Electrical Engineering</b> , <i>University of Wisconsin</i> , Madison, Wisconsin Minors in optimization and pedagogy Dissertation: Tractable Algorithms for Constructing Electric Power Network Models Advisors: Dr. Christopher DeMarco & Dr. Bernard Lesieutre Coursework emphasis: power systems, power electronics, optimization, automatic control systems
08/2016	<b>Master of Science in Electrical Engineering</b> , <i>Texas A&amp;M University</i> , College Station, Texas Power systems emphasis Thesis: Analysis of lightning arrester overloading in future distribution systems with distributed generation Advisor: Dr. Le Xie Coursework emphasis: Power systems, electric machines, linear control systems
05/2012	<b>Bachelor of Science in Electrical Engineering</b> , <i>Texas A&amp;M University</i> , College Station, Texas, Magna Cum Laude Electrical power and controls specialties, minor in mathematics Coursework emphasis: Power systems, electric machines, power electronics, linear controls systems, signal processing

## Research

07/24 – Pres.	<b>Senior Research Engineer II</b> , <i>Texas A&amp;M University</i> , College Station, Texas
06/22 – 07/24	<b>Senior Research Engineer I</b> , <i>Texas A&amp;M University</i> , College Station, Texas
09/21 – 06/22	<b>Postdoctoral Researcher</b> , <i>Texas A&amp;M University</i> , College Station, Texas
08/16 – 08/21	<b>Research Assistant</b> , <i>University of Wisconsin-Madison</i> , Madison, Wisconsin
08/15 – 05/16	<b>Research Assistant</b> , <i>Texas A&amp;M University</i> , College Station, Texas

## Research Projects (PI)

*Total Research Funding Obtained: \$1,889,200*

02/2026 – 09/2026	Residential Energy Visibility and Economic Affordability Landscape (REVEAL), DOE OE, <u>\$300,000</u>
02/2026 – 12/2026	Creating Large-Scale Realistic Synthetic Grid Models, ERCOT, <u>\$125,000</u>

- 10/2025 – Proposal Lead and Project Manager for Geomagnetic Disturbance Modeling Project, DOE CESER, \$380,000
- 09/2026
- 06/2025 – GMD Transformer Modeling Plan, DOE Office of Electricity (OE), \$100,000
- 10/2026
- 02/2025 – Geomagnetic Disturbance Analysis, ERCOT, \$50,000
- 02/2026
- 09/2024 – Texas A&M and Prairie View A&M Regional Grid Consortium, DOE Grid Deployment Office (GDO), \$600,000
- 11/2025
- 06/2024 – Transmission Study on Heavy Duty Truck Electrification for Northern California, ElectroTempo, \$50,000
- 06/2025
- 10/2023 – A Utility-Scale Plan for Accelerating the Deployment of Multi-Family EV Charging Infrastructure, DOE VTO, TAMU portion \$150,000, \$2,000,000 project total
- 09/2025
- 10/2021 – Scalable Truck Charging Demand Simulation for Cost-Optimized Infrastructure Planning, DOE Vehicle Technologies Office (VTO), TAMU portion \$97,200, \$320,000 project total
- 12/2024
- 01/2023 – Study of the Impact of Geomagnetic Disturbance (GMD) Events on the Entergy System Associated with NERC TPL-007.1, Entergy, \$37,000
- 12/2023

### **Research Projects (Co-PI)**

- 06/2025 – Research, Development, and Demonstration of a Natural Hazard and Large Language Model Enhanced Electric Grid Planning Tool, DOE CESER, \$2,500,000
- 06/2029
- 07/2024 – Electric Grid Resilience, National Institute of Standards and Technology (NIST), \$1,500,000
- 09/2026
- 02/2022 – Enhanced Geomagnetic Disturbance Modeling, DOE CESER, \$750,000
- 09/2025
- 10/2021 – HEMP (High-Altitude Electromagnetic Pulse) Transmission Consequence Model, DOE Office of Cybersecurity, Energy Security, and Emergency Response (CESER), \$650,000
- 09/2026

### **Research Projects (Researcher)**

- 01/2022 – ARPA-E GO (Grid Optimization) Competition Challenge 3, \$550,000
- 10/2024
- 12/2022 – PSERC S-102G: Second Stage in the Feasibility Assessment of the Synchronous Operations of the North American Eastern and Western Interconnections, \$100,000
- 05/2024
- 08/2022 – PSERC S-99: Incorporating Climate Impacts into Electricity System Planning Models, \$64,000
- 09/2023
- 09/2021 – PSERC S-91: Generating Value from Detailed, Realistic Synthetic Electric Grids, \$32,000
- 08/2022
- 08/2020 – ARPA-E GO (Grid Optimization) Competition Challenge 2
- 08/2021
- 09/2019 – ARPA-E PERFORM (Performance-based Energy Resource Feedback, Optimization, and Risk Management), \$200,000
- 08/2021
- 11/2018 – ARPA-E GO (Grid Optimization) Competition Challenge 1, \$165,000.00
- 12/2019
- 09/2016 – Lead PhD student for EPIGRIDS (Electric Power Infrastructure and Grid Representations in Interoperable Data Sets), ARPA-E GRID DATA (Generating Realistic Information for the Development of Distribution and Transmission Algorithms), \$1,801,587
- 02/2020

## Publications

† indicates publications from projects led as PI, ‡ indicates publications from projects co-led as co-PI, \* indicates students directly supervised

### Journal Publications

- [J4] J.M. Snodgrass, Y. Xu, P. Patil, P. Finch, S. Das, D. Wallison, L. Haylow, D. Lynch, J. Loukotka, R. Battersby, T. J. Overbye, "A large-scale framework for travel-demand-informed grid readiness screening of multi-family EV charging," In preparation to submit to *Nature Sustainable Mobility* special collection Alternative-Fuel Vehicles: Technologies, Travel Demand, Energy Implications, and Infrastructure Planning, 2026
- [J3] S. Taylor, A. Rangarajan, N. Rhodes, J. Snodgrass, B. C. Lesieutre and L. A. Roald, "California Test System (CATS): A Geographically Accurate Test System Based on the California Grid," in *IEEE Transactions on Energy Markets, Policy and Regulation*, vol. 2, no. 1, pp. 107–118, March 2024. [View](#)
- ‡ [J2] P. Dehghanian, A. Zhang, R. Fatima, J. Snodgrass, A. B. Birchfield, K. R. Davis, T. J. Overbye, "An Integrated Assessment of a G3 GMD Event on Large-Scale Power Grids: From Magnetometer Data to Geomagnetically Induced Current Analysis," in *IEEE Transactions on Industry Applications*, vol. 60, no. 1, pp. 1634–1644, Jan. 2024. [View](#)
- [J1] J. Snodgrass and L. Xie, "Overvoltage analysis and protection of lightning arresters in distribution systems with distributed generation," *International Journal of Electrical Power & Energy Systems*, vol. 123, p. 106209, 2020. [View](#)

### Conference Publications

- [C41] R. Baembitov, F. Safdarian, J. M. Snodgrass, T. J. Overbye, "Load Prediction Considering Forced Outages," 2026 IEEE Texas Power and Energy Conference (TPEC), College Station, TX, February 2026. [View](#)
- † [C40] S. Healy\*, B. Kennedy, J. M. Snodgrass, T. J. Overbye, "Undergraduate Research Toward a Linear Programming-Based Method for Estimating Feeder-Level EV Charging Hosting Capacity Using Simulated Demand Data," 2026 IEEE Texas Power and Energy Conference (TPEC), College Station, TX, February 2026. [View](#)
- [C39] H. Kim\*, E. Keller\*, J. M. Snodgrass, T. J. Overbye, "Towards a Domain-Specific AI Framework for Power System Simulation Analysis," 2026 IEEE Texas Power and Energy Conference (TPEC), College Station, TX, February 2026. [View](#)
- [C38] H. Patel\*, E. Keller\*, J. M. Snodgrass, T. J. Overbye, "Building a Parallel ERA5 Download and Cleaning Pipeline for Large-Scale Weather Analysis and AI Training," 2026 IEEE Texas Power and Energy Conference (TPEC), College Station, TX, February 2026. [View](#)
- † [C37] N. Philipello\*, J. M. Snodgrass, T. J. Overbye, "Undergraduate Research in Iterative Power Flow using PowerModels and PowerWorld Simulator," 2026 IEEE Texas Power and Energy Conference (TPEC), College Station, TX, February 2026. [View](#)
- † [C36] N. Slavchev\*, E. M. Keller\*, J. M. Snodgrass, T. J. Overbye, "Testing Fine-Tuned Large Language Models for Power System Analysis," 2026 IEEE Texas Power and Energy Conference (TPEC), College Station, TX, February 2026. [View](#)
- [C35] J. M. Snodgrass, Z. Harrison, C. L. DeMarco, B. Lesieutre, "Creating Hourly-Resolution Time-Varying Synthetic Load Data for U.S. Electric Grid Models," 2026 IEEE Texas Power and Energy Conference (TPEC), College Station, TX, February 2026. [View](#)
- [C34] J. M. Snodgrass, Y. Agalgaonkar, T. J. Overbye, "Human-Centric Analytics for Resilient and Modern Power System Control Rooms," 2026 IEEE Texas Power and Energy Conference (TPEC), College Station, TX, February 2026. [View](#)

- † [C33] A. Diop\*, W. Yun\*, J. M. Snodgrass, T. J. Overbye, "Undergraduate Research on Physically Informed Transmission Line Design," 2026 IEEE Texas Power and Energy Conference (TPEC), College Station, TX, February 2026. [View](#)
- † [C32] E. Keller\*, W. Yun\*, J. M. Snodgrass, T. J. Overbye, "CaseBuilder and the EIA-860 Dataset: Towards a Rapid Power-Case Creation and Modification System," 2026 IEEE Texas Power and Energy Conference (TPEC), College Station, TX, February 2026. [View](#)
- [C31] J. M. Snodgrass, A. Bryce\*, M. Vervelde\*, T. Whitmore\*, M. Zupan\*, B. C. Lesieutre, C. L. DeMarco, "Deriving Realistic Transmission Line Parameters from Publicly Available Data for Synthetic Power System Networks," 2026 IEEE Texas Power and Energy Conference (TPEC), College Station, TX, February 2026. [View](#)
- [C30] S. Kunkolienkar, J. Snodgrass, A. Birchfield, T. J. Overbye, "Modeling Electric Grid Topology with Spatially-Aware Degree-Corrected Stochastic Block Model," 59th Hawaii International Conference on System Sciences (HICSS), January 2026. [View](#)
- [C29] J. Kwon\*, J. Snodgrass, F. Safdarian, T.J. Overbye, W. Jang, "Undergraduate Research Towards An Integrated Modeling Framework For Electric Grid Planning," College Station, TX, October 2025. [View](#)
- [C28] S. Dzakpasu\*, T.J. Overbye, J. Snodgrass, "Visualization and Analysis of United States Independent System Operator Generator Interconnection Requests," College Station, TX, October 2025. [View](#)
- [C27] F. Safdarian, J. Cook, K. Zhgun, T.J. Overbye, J. Snodgrass, "Power Flow Modeling of the Impacts of Weather and Other Resiliency Hazards with a Focus on Transmission Planning," 58th Hawaii International Conference on System Sciences, Waikoloa, HI, January 2025. [View](#)
- † [C26] L. Haylow\*, D. Wallison, J. Snodgrass, T.J. Overbye, "Undergraduate Research on Big Data Analysis: Towards Large-Scale Electric Vehicle Integration Studies," 2024 North American Power Symposium (NAPS), El Paso, TX, Oct. 2024. [View](#)
- [C25] J.S. Cook, F. Safdarian, J. Snodgrass, and T.J. Overbye, "Large-Scale Weather Correlations for a Possible Interconnection of North American Power Grids," 2024 North American Power Symposium (NAPS), El Paso, TX, Oct. 2024. [View](#)
- ‡ [C24] N. LoGuidice, J. Snodgrass, T. J. Overbye, "Estimating the Electric Field from Geomagnetically Induced Currents," Kansas Power and Energy Conference 2024, April 2024. [View](#)
- [C23] F. Safdarian, S. Kunkolienkar, J. Snodgrass, A. Birchfield, T. Overbye, "Creating a Portfolio of Large-Scale, High-Quality Synthetic Grids: A Case Study," Kansas Power and Energy Conference 2024, April 2024. [View](#)
- [C22] F. Safdarian, M. Stevens, J. Snodgrass, T. J. Overbye, "Detailed Hourly Weather Measurements for Power System Applications," 2024 IEEE Texas Power and Energy Conference (TPEC), College Station, TX, Feb. 2024. [View](#)
- [C21] S. Kunkolienkar, F. Safdarian, J. Snodgrass, A. Birchfield, T. Overbye, "A Description of the Texas A&M University Electric Grid Test Case Repository for Power System Studies," 2024 IEEE Texas Power and Energy Conference (TPEC), College Station, TX, Feb. 2024. [View](#)
- [C20] J.S. Cook, F. Safdarian, J. Snodgrass, and T.J. Overbye, "Using Power Flow Application Capabilities to Visualize and Analyze US Energy Information Administration Generation Data," 2024 IEEE Texas Power and Energy Conference (TPEC), College Station, TX, Feb. 2024. [View](#)

- ‡ [C19] M. Stevens, T. J. Overbye, J. Snodgrass, A. B. Birchfield, "Generating Electric Field Test Patterns for Electric Grid Resiliency Studies," 2023 North American Power Symposium, October 2023. [View](#)
- [C18] E. Ekeruche\*, S. Kunkolienkar, J. Snodgrass, T.J. Overbye, "Undergraduate Research on Improving Power Grid Planning Models," 2023 North American Power Symposium, Asheville, NC, October 2023. [View](#)
- [C17] J. L. Wert, T. Chen\*, F. Safdarian, J. Snodgrass, and T. J. Overbye, "Calculation and Validation of Weather-Informed Renewable Generator Capacities in the Identification of Renewable Resource Droughts," IEEE PowerTech 2023, Belgrade, Serbia, June 2023. [View](#)
- [C16] S. Kunkolienkar, F. Safdarian, J. Snodgrass, T. J. Overbye, "Quantification of Area Sparsity in Large-Scale Electric Grids," Kansas Power and Energy Conference 2023, April 2023. [View](#)
- [C15] S. Kunkolienkar, F. Safdarian, J. Snodgrass, T. J. Overbye, "Creating Active and Reactive Power Reserve Zones for Large-Scale Electric Grids," Kansas Power and Energy Conference 2023, April 2023. [View](#)
- [C14] F. Safdarian, J. Penaranda, S. Kang, J. Snodgrass, A. Birchfield, T. J. Overbye, "Improving Load Time Series of Electric Power Systems based on the Temperatures," Kansas Power and Energy Conference 2023, April 2023. [View](#)
- ‡ [C13] J. Griffin\*, B. Kruse\*, M.S. Bitar, J. Snodgrass, K. Davis, and T.J. Overbye, "Properties of Geomagnetic Disturbances and How they Might Effect Power Systems: An Analysis of Past Geomagnetic Disturbances," IEEE Texas Power and Energy Conference at College Station, TX, February 2023. [View](#)
- † [C12] S.E. Hurt\*, J. Snodgrass, T.J Overbye, "Undergraduate Research on Adding Relay Models and Generator Capability Curves to Synthetic Electric Grids," IEEE Texas Power and Energy Conference at College Station, TX, February 2023. [View](#)
- ‡ [C11] A. Zhang, P. Dehghanian, M. Stevens, J. Snodgrass, and T. J. Overbye, "Synthetic Geomagnetic Field Data Creation for Geomagnetic Disturbance Studies using Time-series Generative Adversarial Networks," IEEE Texas Power and Energy Conference at College Station, TX, February 2023. [View](#)
- [C10] T. J. Overbye, F. Safdarian, W. Trinh, Z. Mao, J. Snodgrass, and J. Yeo, "An Approach for the Direct Inclusion of Weather Information in the Power Flow," Proc. 56th Hawaii International Conference on System Sciences (HICSS), January 2023. [View](#)
- [C9] J. Yeo, W. Trinh, S. Hurt, J.Wert, J. Snodgrass, and T. J. Overbye, "Selectively Modeling Generator Capability Curves Based on Critical Generator Parameter Rankings," 14th IEEE PES Asia-Pacific Power and Energy Engineering Conference, Melbourne, Australia, November 2022. [View](#)
- [C8] F. Safdarian, J. Snodgrass, J. Yeo, A. Birchfield, C. Coffrin, C. Demarco, S. Elbert, B. Eldridge, T. Elgindy, S. Greene, N. Guo, J. Holzer, B. Lesieutre, H. Mittelmann, R. O'Neill, T. J. Overbye, B. Palmintier, P. Van Henternryck, A. Veeramany, T. WK Mak, and J. Wert, "Grid Optimization Competition on Synthetic and Industrial Power Systems," North American Power Symposium, Salt Lake City, UT, October 2022. [View](#)
- ‡ [C7] J. Wert, P. Dehghanian, J. Snodgrass, and T.J. Overbye, "The Effects of Correctly Modeling Generator Step-Up Transformer Status in Geomagnetic Disturbance Studies," North American Power Symposium, Salt Lake City, UT, October 2022. [View](#)
- [C6] T. J. Overbye, J. Snodgrass, A. Birchfield, and M. Stevens, "Towards Developing Implementable High Altitude Electromagnetic Pulse E3 Mitigation Strategies for Large-Scale Electric Grids," IEEE. Texas Power and Energy Conference (TPEC), February 2022. [View](#)

- [C5] J. Snodgrass, S. Kunkolienkar, U. Habiba, Y. Liu, M. Stevens, F. Safdarian, T. Overbye, and R. Korab, "Case Study of Enhancing the MATPOWER Polish Electric Grid," IEEE Texas Power and Energy Conference, College Station, TX, February 2022. [View](#)
- ‡ [C4] J. L. Wert, P. Dehghanian, A. Zhang, M. Stevens, R. Guthrie, J. Snodgrass, K. S. Shetye, T. J. Overbye, K. R. Davis, and J. Gannon, "Analysis of Magnetometer Data from a Strong G3 Geomagnetic Disturbance," in the 2022 IEEE Texas Power and Energy Conference (TPEC), College Station, TX, February 2022. [View](#)
- [C3] S. Babaeinejadsarookolaee, J. Snodgrass, S. Acharya, S. Greene, B. Lesieutre, and C. DeMarco, "Comparison of Real and Synthetic Network Models of the Western United States with Respect to New Realism Measures," in 2021 IEEE Power and Energy Conference at Illinois (PECI), Mar. 2021. [View](#)
- [C2] C. Coffrin, A. Birchfield, J. Snodgrass, T.J. Overbye, C.L. DeMarco, B. Lesieutre, et al., "The power grid library for benchmarking ac optimal power flow algorithms," *arXiv preprint arXiv:1908.02788*, Aug. 2019. [View](#)
- [C1] A. A. Almehezia and J. Snodgrass, "Investigation of V2G Economical viability," in 2018 IEEE Texas Power and Energy Conference (TPEC), 2018, pp. 1–6. [View](#)

## Teaching

- 2025 – Pres. **Short Course Director**, *Texas A&M Smart Grid Center*, College Station, Texas
- [Introduction of Artificial Intelligence in Power Systems](#) (11/2025, 04/2026)
- 2025 – Pres. **Short Course Instructor**, *Texas A&M Smart Grid Center*, College Station, Texas
- [Primer on the Planning and Operation of Large-Scale Electric Grids](#) (02/2025, 09/2025, 01/2026)
  - [Fundamentals of Electric Transmission System Planning](#) (02/2025, 10/2025)
  - [Electric Grid Impacts of Geomagnetic Disturbances](#) (03/2025, 04/2026)

### Instructor of Record

- Spring 2022 **ECEN 214: Electrical Circuit Theory**, *Texas A&M University*, Electrical and Computer Engineering Department, Course enrollment: 90
- Summer 2019 **ECE 355: Electromechanical Energy Conversion**, *University of Wisconsin-Madison*, Electrical Engineering Department, Distance Learning, Course enrollment: 7

### Teaching Assistant

- Fall 2019, Fall 2020 **ECE 427: Electrical Power Systems**, *University of Wisconsin-Madison*, Electrical Engineering Department
- Fall 2014 – Spring 2015 **ECEN 214: Electrical Circuit Theory**, *Texas A&M University*, Electrical and Computer Engineering Department
- Coordinated updates to laboratory manual
  - Created instructional materials and guides for future TAs
  - Spring 2026: Led and mentored a team of 4 TAs

### Pedagogy Doctoral Minor

- Fall 2017 – Spring 2021 **DELTA Institute**, *University of Wisconsin-Madison*

- Conducted a teaching-as-research (TAR) project on algorithmic vs conceptual learning as part of a semester-long internship project
- Completed 4 pedagogy courses on teaching in science and engineering, inquiry-based learning, research mentoring, and internationally diverse teaching

## Service

### Texas A&M University, College Station

- 2022 – Pres. Assistant Director of the TEES Smart Grid Center
- 2025 – 2026 Association of Former Students University Level Distinguished Achievement Awards Selection Committee Member

### University of Wisconsin, Madison

- 2019 – 2020 Graduate student representative on the ECE department PhD grad committee
- 2017 – 2021 ECE Graduate Student Association: Secretary (2017–2019), Public Relations Officer (2019–2021)
- 2017 – 2021 Power System Research Group: Graduate Student Office Manager
- 2019 – 2021 Coordinated graduate student feedback for faculty candidate search committees

## Supervising and Mentoring

### Texas A&M University

#### *Full time Research Engineers supervised:*

- Eric Keller (2024 – Present)
- Hayat Mbayed (2022 – 2023)

#### *Master's Student Workers Supervised (Research): 2024 – Present*

- Hwiyeon Kim
- Selorm Dzakpasu
- Hitarth Chopra

#### *Undergraduate Research Students Supervised: 2022 – Present*

- Jacqueline Aguilera, Emran Ahmed, Tamara Basfar, Eduardo Carstensen, Guillermo Ceja, Juntao (Thomas) Chen, Eric Colon, Sree Davuluri, Juliana Day, Abdoulaye Diop, Selorm Dzakpasu, Mia Flowers, Alex Gonce, Jack Griffin, Lyric Haylow, Siena Healy, Stephen Hurt, Talha Ibrahim, Neil Karraker, Hwiyeon Kim, Blake Kruse, Rachel Kurian, Jaehyeok Kwon, Brian Lee, Cole McAnelly, Jeweliana Mendez, Harshkumar Patel, Nathan Philipello, Mirella Rodriguez, Jonathan Ruiz, Brandon Schnitz, Nikola Slavchev, Nathan Waldron, William Yun

#### *TAMU and TEES Staff Mentored: 2021 – Present*

- Justin Baetge, Kelly Nickinson, Victoria Schmidt

#### *ECEN Energy and Power Graduate Students Mentored: 2021 – Present*

- Rawand Badawi, Max Briones, Jordan Cook, Rida Ratima, Rhett Guthrie, Lyric Haylow, Sanjana Kunkolienkar, Brian Lee, Nicole LoGiudice, Maedeh Mahzarnia, John Penaranda, Melvin Stevens, Diana Wallison, Jess Wert, Anna Zhang, Kseniia Zhgun

### University of Wisconsin Madison (Fall 2016 – Summer 2021)

*Undergraduate Students Supervised: Fall 2017 – Spring 2020*

○ Andrew Bryce, Anna Iwanski, Caleb Kuske, Jordan Nunez, Matthew Vervelde, Jacob Yatso, Michael Zupan

Peer-mentored graduate students Sogol Babaeinejad, Antara Khadria, Noah Rhodes, Sofia Taylor (Fall 2016 – Summer 2021)

### **Professional Service**

2026 IEEE SmartGridComm Conference Program Committee Member  
2025 – 2026 Powering Decisions Optimization Summit Technical Program Co-Chair  
2025 IEEE North American Power Symposium, Program Committee Member  
2024 – 2025 IEEE PES General Meeting in Austin, TX, Local Organizing Committee Member  
2024 – Pres. IEEE Power and Energy Society, Power System Optimization Task Force, Secretary  
2022 – Pres. IEEE Power and Energy Society, GMD Working Group, Secretary  
2017 – Pres. One Day Academy, Austin TX: Advisory Board Member  
2012 – 2014 IEEE Region 5, Panhandle section: IEEE Young Professionals Chair  
2012 – 2014 Amarillo Toastmasters International: Secretary (2012–2013): VP of Public Relations (2014)  
2008 – 2010 NCFCA (National Christian Forensics and Communication Association) speech and debate league: Alumnus judge

### **Session Chair and/or Reviewer for Academic Conferences and Journals**

2025 IEEE Power and Energy Society General Meeting, Panel Session Chair  
2024 – Pres. IEEE Systems Journal, Reviewer  
2022 – Pres. IEEE Transactions on Power Systems, Reviewer  
2022 – Pres. Texas Power and Energy Conference, Reviewer, Session Track Chair  
2019 – Pres. Elsevier Electric Power Systems Research Journal, Reviewer  
2019 – Pres. Power System Computational Conference (PSCC), Reviewer  
2022 American Geophysical Union (AGU) Space Weather Journal, Reviewer  
2019 Elsevier International Journal of Electrical Power and Energy Systems, Reviewer  
2018 IEEE Power and Energy Society General Meeting, Reviewer

### **Community Involvement**

2024 – Pres. Awana Clubs International: Preschool and Kindergarten Program Leader, College Station, TX  
2017 – 2020 City Church Young Professionals Program Leader, Madison WI  
2014 – 2016 Awana Clubs International: High School Program Director, College Station, TX  
2013 – 2014 The Navigators: Amarillo College Campus Director  
2012 – 2014 The Navigators: West Texas A&M University Associate Staff  
2009 – 2012 Awana clubs international: Junior High program director, College Station, TX  
2011 – 2012 Impact Ministries: Volunteer counselor at camps for incoming A&M freshmen

### **Industry Experience**

05/15 – 09/15 **Graduate Summer Intern**, *Oncor Electric Delivery*, Fort Worth, Texas  
○ Researched and documented Oncor's compliance with NERC PRC 005-2 standard for testing power line carrier communication channels

- Completed a transmission level (345kV) generator interconnect study for a proposed wind generating facility
- Conducted a distribution level (15kV) distributed generation interconnect study for a proposed photovoltaic generating facility

07/12 – 07/14 **Electrical Engineer II, Zachry Engineering, Amarillo, Texas**

- Performed design work on three natural gas combustion turbine power plants – simple cycle Xcel Jones Station 4 and combined cycle Calpine Channel and Deer Park Energy Centers
- Designed electrical schematics for key electrical equipment including generator and switchyard breakers, 480V and 4160V switchgear, generator step-up transformers, and a 5600 HP gas compressor
- Created time-current curves and developed relay settings for 480V switchgear
- Revised electrical one-line and protective relaying and metering one-line drawings
- Conducted a plant grounding study to meet IEEE 80 requirements for safe step and touch potentials
- Completed load flow and short circuit studies to provide data for relay settings and equipment ratings
- Managed electrical cable databases and supervised cable routing for all 3 plants

2009 – 2011 **Summer Internships, Cisco Systems, Austin, Texas**

- Created customer-facing bug tracking reports as a problem management engineer (2011)
- Conducted a physical and logical inventory and performed data center management as a junior system administrator (2010)
- Updated process documentation and managed data entry as a project coordinator (2009)

## **Awards**

2025	Outstanding Staff Award, Texas A&M Electrical and Computer Engineering Department
2025	Staff Excellence Award, Texas A&M College of Engineering
2025	Best poster finalist, IEEE Energy and Policy Forum, Washington DC
2021	Gerald Holdridge TA Teaching Excellence Award, University of Wisconsin-Madison
2020	Grainger Power Engineering Award, University of Wisconsin-Madison
2019	Best Poster Award, Power Conference at Illinois (PECI)
2019	ARPA-E Energy Innovation Summit Student Program Scholarship
2015	Powell Industries Fellowship, Texas A&M University
2012	Summa Cum Laude Honors, Texas A&M University
2008	National Merit Scholar, Texas A&M University

## **Continuing Education**

### **Electrical Engineering**

2023	GE EMS 015C: AEMS Source: Building a Generation Model
2023	GE EMS 114W: Network Modeling in Source
2022	GE EMS 112W: SCADA Modeling with Source

2022 GE EMS 111W: Power System Modeling in Source  
 2021 GE GRID102E and EMS103E, Habitat Databases v5.10  
 2018 Steady State Power System Security Analysis, PowerWorld Corporation  
 2015 OPAL-RT LAB, Real-time digital simulator and hardware-in-the-loop training  
 2014 SEL PROT 401, Protecting Power System for Engineers  
 2013 SES CDEGS, Power system grounding and electromagnetic interference training  
 2013 NFPA 70: NEC 2014, Overview and review of the 2014 National Electrical Code  
 2012 SKM Power Tools 101 & 102, Low flow, load flow, short circuit, and arc flash training  
 2012 SEL PROT 405, Industrial Power System Protection

### **Teaching and Pedagogy**

2017 – 2021 DELTA Institute, University of Wisconsin-Madison  
 2019 UW-Madison I-LEAP: Instructor Learning Environment and Pedagogics, 2-day workshop  
 2014 – 2016 Texas A&M University Academy for Future Faculty  
 2015 ENGR 681: Professional Seminar for Future Faculty  
 2014 Texas A&M Teaching Assistant Institute

### **Leadership and Project Management**

2013, 14, 16, 18, 25 Attended the Global Leadership Summit  
 2018 Completed a Project Management for Graduate Students training course

### **Professional Memberships and Licenses**

2018 – Pres. IEEE Power and Energy Society, Member  
 2010 – Pres. IEEE Eta Kappa Nu Honor Society, Member  
 2012 – Pres. Engineer in Training, Texas  
 2012 – 2015 Toastmasters International, Member, CC, CL  
 2011 – 2014 Phi Kappa Phi, Member  
 2006 – 2011 Phi Theta Kappa, Member

### **Academic and Professional References**

References are available upon request