

Michael Starke
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Education and Training

Ph.D. in Electrical Engineering with focus on Power Systems Engineering, University of Tennessee, Knoxville, '09
M.S. in Electrical Engineering with focus on Power Electronics, University of Tennessee, Knoxville, '06
B.S. in Electrical Engineering, University of Tennessee, Knoxville, '04

Research and Professional Experience

2009 – 2025 *Electrical Engineering Researcher, Grid Systems Architecture, Oak Ridge National Laboratory, Oak Ridge, TN*

2019-2025 Architect and developer of power electronic system software and integration, Technical lead for resilient optimization and controls of xFC and MCS stations Networked microgrids with consideration of business models and data privacy. Developer of multi-chemistry agent system for utility scale systems.

2016 - 2019 Lead on team to develop agent-based system to integrate transactive controls to HVAC and water heaters into a smart community.
Developed an energy storage system prototype composed of secondary use batteries for Habitat for Humanity

2015 – 2016 Lead on a team that developed open-source microgrid controller called CSEISMIC. Controller supports resource optimization, automatic communication and device integration through DDS, and islanding and resynchronization features.

2015 Lead on prototype construction of a secondary-use energy storage system with new inverter controls and communication interface.

2013 – 2015 Lead on secondary-use energy storage research and development of testing platform at ORNL for testing ABB/GM energy storage system.

2012 – 2013 Lead on industrial demand response project to evaluate the demand response potential of industrial loads across the U.S. Created a new tool that was patented (IGATE).

2009 – 2012 Supported development of publications and standards for the IEEE Wind and Solar Collector Design Working Group

2004– 2009 *Graduate Researcher at University of Tennessee – performed dissertation and other projects*
Dissertation - “DC Distribution with Fuel Cells as Distributed Energy Resources”

2003– 2004 *Future Truck Competition – supported competitive build of a hybrid electric*

vehicle conversion of a ford explorer.

Awards

- Best Paper Awards: 2024, IEEE IAS Transportation Systems Committee TSC First Prize Paper Award for ECCE Improving EV Charging Resilience under a Device Fault Condition.
- Best Paper Awards: 2022, Best Paper Award for PEDG, Solid State Power Substations (SSPS): A Multi-Hierarchical Architecture from Substation to Grid Edge.
- Best Paper Award: 2021, International Journal of Electrical Power & Energy Systems" (IJEPES), "Network reconfiguration and distributed energy resource scheduling for improved distribution system resilience."
- IEEE Power and Energy Society Chapter Outstanding Engineer Award, East Tennessee Power and Energy Chapter, December 2020.
- Best Paper Awards: 2019, 3rd International Conference on Smart Grid and Smart Cities: "An Automatic Learning Framework for Smart Residential Communities"

Patents

- Nasr E. Alkadi, **Michael R. Starke**, "Industrial geospatial analysis tool for energy evaluation," Patent No. 9378256, UT-Battelle, LLC, June 28, 2016.
- Madhu Sudan Chinthavali, **Michael Starke**, Radha Krishna Moorthy, Steven Campbell, Patent No. 12095270, UT-Battelle, LLC, September 17, 2024.

Publications

Publications which are mostly focused on renewables, energy storage, demand response, DC systems, and microgrids.

Metrics from Google Scholar: Citations: 4450, H-index: 33, I-index: 70 (updated on 2/21/2025).

The following is a list of recent, most closely related publications to the proposed project:

Journals and conferences

- R. Kimpara, **M. Starke** and P. Kandula, "A Simulation Framework to Support the Deployment of Vanadium Redox Flow Batteries," 2025 IEEE Electrical Energy Storage Applications and Technologies Conference (EESAT), Charlotte, NC, USA, 2025, pp. 1-5.
- **M. Starke**, A. Sundararajan, G. Liu and M. Chinthavali, "Dynamic Boundary Microgrids Under Privatization Considerations," 2025 IEEE PES Grid Edge Technologies Conference & Exposition (Grid Edge), San Diego, CA, USA, 2025, pp. 1-5.
- 2025 -----
- M. Ferrari, **M. Starke**, J. Smith, B. Ollis, A. Sundararajan and Y. Garcia, "A Networked Microgrid Framework and Testbed for Communication, Controls, and Optimization Testing," 2024 IEEE Energy Conversion Congress and Exposition (ECCE), Phoenix, AZ, USA, 2024, pp. 577-584.
- M. Ferrari, **M. Starke**, J. Smith and O. Rodriguez, "Microgrid to Microgrid Synchronization with Grid-Forming Inverters: Challenges and Solution," 2024 IEEE Energy Conversion Congress and Exposition (ECCE), Phoenix, AZ, USA, 2024, pp. 779-783

- Sundararajan, G. Liu, **M. Starke**, R. K. Moorthy and C. Irwin, "Networked Microgrid Ownership, Data, and Control Implications: Challenges and Open Questions," 2024 IEEE Power & Energy Society General Meeting (PESGM), Seattle, WA, USA, 2024, pp. 1-5.
- N. Kim, **M. Starke**, S. Campbell, B. Dean and M. Chinthavali, "Solid State Power Substation DC Node Optimization and Controller Hardware-In-The-Loop Demonstration," 2024 IEEE Sixth International Conference on DC Microgrids (ICDCM), Columbia, SC, USA, 2024, pp. 1-8.
- B. Dean, **M. Starke**, S. Campbell and R. S. K. Moorthy, "A graphical user interface platform to support power electronic converters and integrated systems," 2024 IEEE Power & Energy Society Innovative Smart Grid Technologies Conference (ISGT), Washington, DC, USA, 2024, pp. 1-5.
- **M. Starke** et al., "Framework for Supporting Adaptive Droop Based Power Electronic Systems," 2024 IEEE Power & Energy Society Innovative Smart Grid Technologies Conference (ISGT), Washington, DC, USA, 2024, pp. 1-5.

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- N. Kim, **M. Starke** and B. Dean, "Improving EV Charging Resilience under a Device Fault Condition," 2023 IEEE Energy Conversion Congress and Exposition (ECCE), Nashville, TN, USA, 2023, pp. 1737-1744.
- H. Zandi, **M. Starke**, C. Winstead, T. Kuruganti, J. Hill and F. Li, "Optimal Operation of Integrated PV and Energy Storage Considering Multiple Operational Modes With a Real-World Case Study," in IEEE Access, vol. 11, pp. 99070-99082, 2023.
- M. Ferrari, B. Ollis, **M. Starke** and A. Massol-Deya, "The Well- Connected Microgrid: A Network of Microgrids can Withstand Severe storms," in IEEE Spectrum, vol. 60, no. 10, pp. 36-43, October 2023.
- **M. Starke**, N. Kim, B. Dean, S. Campbell and M. Chinthavali, "Automated Controller Hardware-In-The-Loop Testbed for EV Charger Resilience Analysis," 2023 IEEE Transportation Electrification Conference & Expo (ITEC), Detroit, MI, USA, 2023, pp. 1-6.
- **M. Starke** et al., "Improving Resiliency for Electric Vehicle Charging," 2023 IEEE Power & Energy Society General Meeting (PESGM), Orlando, FL, USA, 2023, pp. 1-5.

----- 2023 -----

- B. Dean, **M. Starke**, S. Campbell and M. Chinthavali, "A framework for evaluating power electronic systems for grid integration," 2022 IEEE 7th Southern Power Electronics Conference (SPEC), Nadi, Fiji, 2022, pp. 1-6.
- **M. Starke**, S. Campbell, B. Dean and M. Chinthavali, "An Intelligent Power Electronic System for Secondary Use Batteries," 2022 IEEE Electrical Energy Storage Application and Technologies Conference (EESAT), Austin, TX, USA, 2022, pp. 1-5.
- R. S. K. Moorthy, **M. Starke**, B. Dean, A. Adib, S. Campbell and M. Chinthavali, "Megawatt Scale Charging System Architecture," 2022 IEEE Energy Conversion Congress and Exposition (ECCE), 2022, pp. 1-8.
- **M. Starke**, S. Campbell, M. Chinthavali and B. Dean, "A 1kV, 480V Power Electronics Hub for DER Integration in Commercial Buildings," 2022 IEEE Energy Conversion Congress and Exposition (ECCE), 2022, pp. 1-7.
- M. Chinthavali, A. Adib, J. O. Pereira Pinto, R. Wojda and **M. Starke**, "A Medium Voltage Three-Stage Power Converter Topology for Distribution Grid Scale Energy Storage Systems," 2022 IEEE Energy Conversion Congress and Exposition (ECCE), 2022, pp. 1-8.
- M. Chinthavali, R. S. K. Moorthy, **M. Starke** and B. Dean, "Solid State Power Substations (SSPS): A Multi-Hierarchical Architecture from Substation to Grid Edge," 2022 IEEE 13th International Symposium on Power Electronics for Distributed Generation Systems (PEDG), 2022, pp. 1-6.
- **M. Starke**, R. K. Moorthy, S. Campbell and M. Chinthavali, "Start-up Optimization Considering Integrated Power Electronic Systems," 2022 IEEE Power & Energy Society General Meeting (PESGM), 2022, pp. 1-5.
- Alshowkan, M., Evans, P.G., **Starke, M.** et al. Authentication of smart grid communications using quantum key distribution. Sci Rep 12, 12731 (2022).

- Chen, Y., Abu-Heiba, A., Kassaei, S., Liu, C., Liu, G., **Starke, M.**, Smith, B. T., and Momen, A. M. (March 2, 2022). "Coupled Heat Power Operation of Smart Buildings via Modular Pumped Hydro Storage." *ASME. J. Energy Resour. Technol.* July 2022; 144(7): 070912.
- **M. Starke**, S. Bal, M. Chinthavali and N. Kim, "A Control Strategy for Improving Resiliency of an DC Fast Charging EV System," 2022 IEEE Transportation Electrification Conference & Expo (ITEC), 2022, pp. 947-952.
- **M. Starke** et al., "A MW scale charging architecture for supporting extreme fast charging of heavy-duty electric vehicles," 2022 IEEE Transportation Electrification Conference & Expo (ITEC), 2022, pp. 485-490.
- J. Hall, **M. Starke**, J. Munk, H. Zandi, T. Kuruganti and H. Buckberry, "A System of Agents for Supporting Optimization and Control of a Connected Community," in *IEEE Journal of Emerging and Selected Topics in Industrial Electronics*, vol. 3, no. 1, pp. 57-68, Jan. 2022.
- **M. Starke** et al., "Agent-Based Distributed Energy Resources for Supporting Intelligence at the Grid Edge," in *IEEE Journal of Emerging and Selected Topics in Industrial Electronics*, vol. 3, no. 1, pp. 69-78, Jan. 2022.

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- Qingxin Shi, Fangxing Li, Mohammed Olama, Jin Dong, Yaosuo Xue, **Michael Starke**, Wei Feng, Chris Winstead, Teja Kuruganti, Post-extreme-event restoration using linear topological constraints and DER scheduling to enhance distribution system resilience, *International Journal of Electrical Power & Energy Systems*, Volume 131, 2021.
- **M. Starke** et al., "A Remote Development Process and Platform for Power Electronic Systems," 2021 IEEE Energy Conversion Congress and Exposition (ECCE), 2021, pp. 3182-3189.
- **M. Starke**, B. Xiao and M. Chinthavali, "A Low Voltage DC Power Electronic Hub to Support Buildings," 2021 IEEE Fourth International Conference on DC Microgrids (ICDCM), 2021, pp. 1-8.
- **M. Starke** et al., "Control and Management of Multiple Converters in a Residential Smart Grid," 2021 IEEE Applied Power Electronics Conference and Exposition (APEC), 2021, pp. 668-674.
- **M. Starke et al.**, "Secondary Use-Plug-and-Play Energy Storage System Composed of Multiple Energy Storage Technologies," 2021 IEEE Power & Energy Society Innovative Smart Grid Technologies Conference (ISGT), 2021, pp. 1-5.
- B. Dean, **M. Starke**, M. Smith, M. Chinthavali and L. Tolbert, "A Communication Testbed for Testing Power Electronic Agent Systems," 2021 IEEE Power & Energy Society Innovative Smart Grid Technologies Conference (ISGT), 2021, pp. 1-5.
- J. Hall, **M. Starke**, J. Munk, H. Zandi, S. Chinthavali, V. Tansakul, T. Kuruganti, H. Buckberry, "A Real-time Agent Based Optimization and Control Approach for Residential Building Heating Ventilation and Air Conditioning Systems," 2021 IEEE Power & Energy Society Innovative Smart Grid Technologies Conference (ISGT), 2021, pp. 01-05.
- S. Chinthavali, S. Lee, **M. Starke**, J. Chae, V. Tansakul, J. Munk, H. Zandi, T. Kuruganti., "Data Analysis Approach for Large Data Volumes in a Connected Community," 2021 IEEE Power & Energy Society Innovative Smart Grid Technologies Conference (ISGT), 2021, pp. 1-5.
- R. S. Krishna Moorthy, G. Liu, M. Chinthavali, J. Choi, A. Aswad and **M. Starke**, "Architecture of a Residential Solid State Power Substation (SSPS) Node," 2021 IEEE Power & Energy Society Innovative Smart Grid Technologies Conference (ISGT), 2021, pp. 1-5.
- Qingxin Shi, Fangxing Li, Mohammed Olama, Jin Dong, Yaosuo Xue, **Michael Starke**, Chris Winstead, Teja Kuruganti, Network reconfiguration and distributed energy resource scheduling for improved distribution system resilience, *International Journal of Electrical Power & Energy Systems*, Volume 124, 2021.

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- Xiao Kou; Fangxing Li; Jin Dong; Mohammed Olama; **Michael Starke**; Yang Chen; Helia Zandi., "A Comprehensive Scheduling Framework using SP-ADMM for Residential Demand Response with Weather and Consumer Uncertainties," in *IEEE Transactions on Power Systems*, December 2020.

- P. Bhowmik, **M. Starke**, B. Dean and M. Chinthavali, "Vulnerability Detection Methodology for a Digital Signal Processor Micro-Controller at Edge Level Distributed Energy Resource Controller," 2020 IEEE CyberPELS (CyberPELS), 2020, pp. 1-5.
- **M. Starke** et al., "A Plug-and-Play Design Suite of Converters for the Electric Grid," 2020 IEEE Energy Conversion Congress and Exposition (ECCE), 2020, pp. 2314-2321.
- Jin Dong, **Michael Starke**, Borui Cui, Jeffrey Munk, Evgeniya Tsybina, Christopher Winstead, Yaosuo (Sonny) Xue, Mohammed Olama*, and Teja Kuruganti, Battery Equivalent Model for Residential HVACs IEEE Power and Energy Society General Meeting, August 2020.
- Ozmen, Ozgur; Nutaro, Jim; **Starke, Michael**; Munk, Jeffrey; Roberts, Larry; Xiao, Kou; Im, Piljae; Dong, Jin; Li, Fangxing; Kuruganti, Teja; Zandi, Helia, *Power Grid Simulation Testbed for Transactive Energy Management Systems*, Sustainability 2020, 12, 4402
- Kou, Xiao; Li, Fangxing; Dong, Jin; **Starke, Michael**; Munk, Jeff; Xue, Yaosuo; Olama, Mohammed; Zandi, Helia; A Scalable and Distributed Algorithm for Managing Residential Demand Response Programs using Alternating Direction Method of Multipliers (ADMM), IEEE Transactions on Smart Grid, June 2020.
- M. Chinthavali, **M. Starke**, R. Moorthy, An Intelligent Energy Router for Managing Behind the Meter Resources Assets, IEEE Innovative Smart Grid Technologies, 2020.
- **M. Starke**, J. Munk, H. Zandi, T. Kuruganti, H. Buckberry, J. Hall, J. Leverette, "Real-Time MPC for Residential Building Water Heater Systems to Support the Electric Grid" IEEE Innovative Smart Grid Technologies, 2020.
- **M. Starke**, M. Chinthavali, S. Zheng, S. Campbell, R. Zeng, M. Smith, T. Kuruganti, Agent-Based Framework for Supporting Behind the Meter Transactive Power Electronic Systems, IEEE Innovative Smart Grid Technologies, 2020.

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- Supriya Chinthavali, Varisara Tansakul, Sangkeun Lee, Anika Tabassum, Jeff Munk, Jan Jakowski, **Michael Starke**, Teja Kuruganti, HeatherBuckberry, Jim Leverette. Quantification of Energy Cost Savings through Optimization and Control of Appliances within Smart Neighborhood Homes. July 28 - August 1. ACM, New York, NY, USA, 2019.
- E. Tsybina, C. Winstead, **M. Starke**, T. Kuruganti and S. Grijalva, "The Social Cost of Individual Privacy in Aggregated Residential Demand Response," 2019 International Energy and Sustainability Conference (IESC), Farmingdale, NY, USA, 2019, pp. 1-5.
- Mitchell Smith, **Michael Starke**, Leon Tolbert and Madhu Chinthavali, "Architecture for Utility-Scale Multi-Chemistry Battery Energy Storage," Energy Conversion Congress and Expo, 2019.
- **M. Starke** et al., "Residential (Secondary-Use) Energy Storage System with Modular Software and Hardware Power Electronic Interfaces," 2019 IEEE Energy Conversion Congress and Exposition (ECCE), 2019, pp. 2445-2451.
- **M. Starke** et al., "Networked Control and Optimization for Widescale Integration of Power Electronic Devices in Residential Homes," 2019 IEEE Energy Conversion Congress and Exposition (ECCE), 2019, pp. 3496-3501.
- Helia Zandi, **Michael Starke**, Jeffrey Munk, Teja Kuruganti, James Leverette and Jens Gregor, "An Automatic Learning Framework for Smart Residential Communities," 3rd International Conference on Smart Grid and Smart Cities, June 2019.
- Xiao Kou, Fangxing Li, Jin Dong, **Michael Starke**, Jeffery Munk, Teja Kuruganti and Helia Zand, "A Distributed Energy Management Approach for Residential Demand Response," 3rd International Conference on Smart Grid and Smart Cities, June 2019.
- **M. Starke**, M. Chinthavali, B. Taube, D. Spiers, B. Schultz, "Secondary Use Energy Storage System Design Considerations, TechConnect 2019.
- **M. Starke**, J. Munk, H. Zandi, T. Kuruganti, H. Buckberry, J. Hall, J. Leverette, "Agent-Based System for Transactive Control of Smart Residential Neighborhoods," IEEE Power and Energy General Meeting, 2019.
- **M. Starke** et al., "A Multi-Agent System Concept for Rapid Energy Storage Development," 2019 IEEE Power & Energy Society Innovative Smart Grid Technologies Conference (ISGT), 2019, pp. 1-5.

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- H. Zandi, **M. Starke**, T. Kuruganti, "A General Framework to Transform any Home Energy Management System to a Multi-agent System" 7th International Building Physics Conference, September 2018.
- J. Araiza, J. Hambrick, J. Moon, **M. Starke** and C. Vartanian, "Grid Energy-Storage Projects: Engineers Building and Using Knowledge in Emerging Projects," in IEEE Electrification Magazine, vol. 6, no. 3, pp. 14-19, Sept. 2018.
- O. Ceylan, A. Dimitrovski, **M. Starke**, K. Tomsovic, "A Novel Approach for Voltage Control in Electric Power Distribution Systems," IEEE Knowledge in Emerging Projects" IEEE Electrification Magazine, September 2018. Power and Energy Society General Meeting August 2018.
- Y. Xue, **M. Starke**, J. Dong, M. Olama, T. Kuruganti, J. Taft, and M. Shankar, "On a Future for Smart Inverters with Integrated System Functions," IEEE Power and Energy Society General Meeting August 2018.
- M. Smith, **M. Starke**, A. Herron, D. King, L. Tolbert, Autonomous Battery Identification and Health Parameterization, Power Industry Division Symposium, June 2018.

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- R. Azim, F. Li, Y. Xue, **M. Starke** and H. Wang, "An islanding detection methodology combining decision trees and Sandia frequency shift for inverter-based distributed generations," in IET Generation, Transmission & Distribution, vol. 11, no. 16, pp. 4104-4113, 9 11 2017.
- **M. Starke**, A. Herron, D. King and Y. Xue, "Implementation of a Publish-Subscribe Protocol in Microgrid Islanding and Resynchronization With Self-Discovery," in IEEE Transactions on Smart Grid, vol. 10, no. 1, pp. 361-370, Jan. 2019.
- B.R. Cui, J. Munk, R. Jackson, D. Fugate, **M. Starke**. 2017. Building thermal model development of typical house in U.S. for virtual storage control of aggregated building loads based on limited available information. The proceeding of ECOS 2017- The 30th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems, July 2 -6, 2017. San Diego, California, USA
- Liu, Guodong; Xiao, Bailu; **Starke, Michael**; Zhang, Xiaohu; Tomosovic, Kevin; A New Distributed Optimization for Community Microgrid Scheduling, The Hawaii International Conference on System Sciences, 2017.
- **Starke, Michael**; Smith, Mitchell; Sawyer, Nevin; Liu, Guodong; Dean, Benjamin; Schultz, Bryan; Spiers, Dirk; Harmon, Harvey; Development and Analysis of Energy Storage Sizing Tool for Residential Deployment, IEEE Power and Energy Society General Meeting, 2017.
- Liu, Guodong; Li, Zhi; **Starke, Michael**; Ollis, Ben; Tomosovic, Kevin; Optimal Sizing of Energy Storage for Community Microgrids Considering Building Thermal Dynamics, IEEE Power and Energy Society General Meeting, 2017.
- Liu, Guodong; **Starke, Michael**; Xiao, Bailu; Tomosovic, Kevin; Robust Optimization Based Microgrid Scheduling With Islanding Constraints, IET Generation, Transmission, & Distribution, 2017.
- Liu, Guodong; **Starke, Michael**; Xiao, Bailu; Zhang, X; Tomosovic, Kevin; Microgrid optimal scheduling with chance-constrained islanding capability, Electric Power Systems Research, Volume 145, April 2017, Pages 197-206, April 2017

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- G. Gurrula, D. L. Dinesha, A. Dimitrovski, P. Sreekanth, S. Simunovic and **M. Starke**, "Large Multi-Machine Power System Simulations Using Multi-Stage Adomian Decomposition," in IEEE Transactions on Power Systems, vol. 32, no. 5, pp. 3594-3606, Sept. 2017.
- Jackson R, Curran S, Chambon P, Post B, Love, L, Wagner R, Ozpineci B, Chinthavali M, **Starke M**, Green J, Tryggstad L, Lee B. Overview of the Oak Ridge National Laboratory Advanced Manufacturing Integrated Energy Demonstration Project: Case Study of Additive Manufacturing as a Tool to Enable Rapid Innovation in Integrated Energy Systems. ASME. ASME International Mechanical Engineering Congress and Exposition, Volume 14: Emerging Technologies; Materials: Genetics to Structures; Safety Engineering and Risk Analysis

- **Starke, Michael**; Xiao, Bailu; Liu, Guodong; Ollis, Ben; Irminger, Philip; King, Dan; Herron, Andrew; Xue, Yaosuo; Architecture and Implementation of Microgrid Controller, IEEE Innovative Smart Grid Technologies, 2016.
- Xiao, Bailu; **Starke, Michael**; King, Dan; Irminger, Philip; Herron, Andrew; Ollis, Ben; Xue, Yaosuo, Implementation of System Level Control and Communications in a Hardware-in-the-Loop Microgrid Testbed, IEEE Innovative Smart Grid Technologies, 2016.
- Ben Ollis, Philip Irminger, **Michael Starke**, Andrew Herron, Dan King, Bailu Xiao, Yaosuo Xue, Ben Knueven, Jim Ostrowski, "Economic Feasibility Analysis and Operational Testing of a Community Energy Storage System," ECCE, September 2016.
- G. Liu, **M. Starke**, X. Zhang and K. Tomsovic "A MILP-Based Distribution Optimal Power Flow Model for Microgrid Operation," Proceedings of the 2016 IEEE PES General Meeting, Boston, MA, Jul. 17-21, 2016.
- G. Liu, B. Xiao, **M. Starke**, O. Ceylan and K. Tomsovic, "A Robust Load Shedding Strategy for Microgrid Islanding Transition," Proceedings of the 2016 IEEE PES T&D Conference & Exposition, Dallas, TX, May. 2-5, 2016.
- O. Ceylan, A. Dimitrovski, **M. Starke**, K. Tomsovic, "Optimal Reactive Power Allocation for Photovoltaic Inverters to Limit Transformer Tap Changes", 2016 IEEE PES General Meeting, Boston MA, July 17-21
- G. Gurralla, A. Dimitrovski, S. Pannala, S. Simunovic, **M. Starke**, "Parareal in Time for Fast Power System Dynamic Simulations", IEEE Transactions on Power Systems, Vol. 31, No. 3, 2016, pp. 1820-1830.
- Liu, Guodong; **Starke, Michael R**; Ceylan, Oguzhan; Tomsovic, Kevin; Advanced Energy Storage Management in Distribution Network, The 49th Hawaii International Conference on System Sciences (HICSS), January 2016.

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- Ceylan, Oguzhan; Ollis, T Ben; **Starke, Michael R**; Irminger, Philip; Tomsovic, Kevin; A Regression Based Hourly Day Ahead Solar Irradiance Forecasting Model by Labview using Cloud Cover Data, 9th International Conference on Electrical and Electronics Engineering, November 2015.
- Xiao, Bailu; Prabakar, Kumaraguru; **Starke, Michael R**; Liu, Guodong; Dowling, Kevin; Ollis, T Ben; Irminger, Philip; Xu, Yan; Dimitrovski, Aleksandar D; Development of Hardware-in-the-loop Microgrid Testbed, IEEE Energy Conversion Congress and Exposition, September 2015.
- B. Johnson, **M. Starke**, A. Dimitrovski, "Examining the Potential Impact of Plug-In Electric Vehicles on Residential Sector Power Demand," IEEE PES General Meeting, July 2015.
- Dimitrovski, Aleksandar D; Gurralla, Gurunath; **Starke, Michael R**; Pannala, Sreekanth; Simunovic, Srdjan; Parareal in Time for Fast Power System Dynamic Simulations, IEEE Transactions on Power Systems, July 2015.
- Irminger, Philip; **Starke, Michael R**; Ollis, T Ben; King, Daniel J; Labaza, Christine; Valencia, Pablo; Karlson, Peter; Thambiappah, Seelan; Parn, Karl; Massin, "Demand Charge Reduction, Power Factor Control, and Other Functions Using Secondary-Use Batteries", Advanced Automotive Battery Conferences June 2015.
- J. Nutaro, D. Fugate, T. Kuruganti, J. Sanyal, **M. Starke**, Cost Effective Retrofit Technology for Reducing Peak Power Demand in Small and Medium Commercial Buildings, Science and Technology for the Built Environment, 2015.

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- B. Johnson, **M. Starke**, O. Abdelaziz, R. Jackson, and L. Tolbert, "A Dynamic Simulation Tool for Estimating Demand Response Potential from Residential Loads," in 6th Conference on Innovative Smart Grid Technologies (ISGT 2015), Washington, D.C., February 2014.
- J. Li, P. Jones. O. Onar, **M. Starke**, "Coupling electric vehicles and power grid through charging-in-motion and connected vehicle technology," *Electric Vehicle Conference (IEVC), 2014 IEEE International*, vol., no., pp.1,7, 17-19 Dec. 2014
- P. Irminger, **M. Starke**, A. Dimitrovski, M. Young, J. Stovall, D. Rizy, P. Overholt, "A Testing Platform for Validation of Aging Models and Understanding Thermal Limits of Overhead Conductors," IEEE PES General Meeting, July 2014.

- **M. Starke**, J. Nutaro, P. Irminger, B. Ollis, T. Kuruganti, D. Fugate, "Integration of Photovoltaics into Building Energy Usage through Advanced Control of Rooftop Units," 3rd International High Performance Buildings Conference at Purdue, July 14-17, 2014.
- J. Nutaro, D. Fugate, T. Kuruganti, **M. Starke**, "An inexpensive retrofit technology for reducing peak power demand in small and medium commercial buildings", Proceedings of the 3rd International High Performance Buildings Conference at Purdue, July 14-17, 2014.
- **M. Starke**, P. Irminger, B. Ollis, G. Andrews, O. Onar, P. Karlson, P. Valencia, S. Massin, A. Goodson, P. Rosenfeld, "Community Energy Storage with Secondary Use EV/PHEV Batteries," TechConnect 2014.
- B. Johnson, **M. Starke**, O. Abdelaziz, R. Jackson, and L. Tolbert, "A Method for Modeling Household Occupant Behavior to Simulate Residential Energy Consumption," in 5th Conference on Innovative Smart Grid Technologies (ISGT 2014), Washington, D.C., Feb. 19-22, 2014.
- B. Johnson, **M. Starke**, O. Abdelaziz, R. Jackson, and L. Tolbert, "A MATLAB Based Occupant Driven Dynamic Model for Predicting Residential Power Demand," in Transmission & Distribution Conference & Exposition (T&D 2014), Chicago, IL, Apr. 14-17, 2014

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- **M. Starke**, D. Letto, N. Alkadi, R. George, B. Johnson, K. Dowling, S. Khan, Demand-side Response from Industrial Loads, TechConnect 2013.
- N. Alkadi, **M. Starke**, O. Ma, K. Dowling, B. Johnson, S. Khan, S. Nimbalkar, D. Cox, "IGATE-E (Industrial Geospatial Analysis Tool for Energy Evaluation)," 35th Industrial Energy Technology Conference.
- O. Ma, N. Alkadi, P. Cappers, P. Denholm, J. Dudley, S. Goli. M. Hummon, S. Kilicotte, J. MacDonald, N. Matson, D. Olsen, C. Rose, M. Sohn, **M. Starke**, B. Kirby, M. O'Malley, "Demand Response for Ancillary Services," IEEE Transactions on Smart Grid, December 2013.

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- D. F. Howard, T. Smith, **M. Starke**, R. G. Harley, "Short circuit analysis of induction machines-wind power application" IEEE PES Transmission and Distribution Conference and Expo, May 2012.
- O. Onar, **M. Starke**, G. Andrews, R. Jackson, "Modeling, Controls, and Applications of Community Energy Storage Systems with Used EV/PHEV Batteries," IEEE Transportation Electrification Conference and Expo, June 2012.

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- M. Bradt, W. Dilling, B. Lanz, K. Louis, T. Nicolai, **M. Starke**, "Wind power plant testing and commissioning," PES General Meeting, July 2011, Page(s): 1-4.
- M. Bradt, B. Badrzadeh, E. Camm, D. Mueller, J. Schoene, T. Siebert, T. Smith, **M. Starke**, R. Walling, "Harmonics and Resonance Issues in Wind Power Plants," PES General Meeting, July 2011, Page(s): 1-8.
- D. F. Howard, J. Restrepo, T. Smith, **M. Starke**, J. Dang, R. G. Harley, "Calculation of Fault Current Contribution of Type I Wind Turbine-Generators" IEEE PES General Meeting, July 2011.

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