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Research profile

Saeed Peyghami received the B.Sc., M.Sc. and Ph.D. all in electrical power engineering from Sharif University of Technology, Tehran, Iran in 2011, 2013 and 2017 respectively. From 2017 to 2021, he was a Postdoctoral researcher at Aalborg University, where he is currenlty an Associate Professor. His research intrest includes reliability and risk assessment in modern power systems, control and stability of power electronics based power systems, and Quantum computing applications in power systems.

Qualifications

Electrical Engineering, PhD, Sharif University of Technology
2013 → 2017
Award Date: 20 Jun 2017

Employment

Research outputs

A Temperature-Aware Operating Model of EV Battery for Resilient Residential Microgrids in Frigid Weather
Zhang, Y., Zhang, M., Cai, S., Li, F., Zheng, Y., Anvari-Moghaddam, A., Peyghami, S. & Blaabjerg, F., Jan 2026, In: I E E E Transactions on Smart Grid. 17, 1, p. 483-496 14 p.

DC-Link Capacitor Design for High-Speed Integrated Motor Drives Reliability and System-Level Constraints
Ahooye Atashin, S., Peyghami, S., Davari, P., Chopade, A. R., Hanigovszki, N. & Blaabjerg, F., 4 Dec 2025, *2025 IEEE 10th Southern Power Electronics Conference (SPEC).* IEEE (Institute of Electrical and Electronics Engineers), 5 p. 11376952. (IEEE 7th Southern Power Electronics Conference (SPEC)).

Advanced Top-Down Reliability Evaluation of Wind Power Systems Using Fault Tree Analysis and Aging Effect Modeling
Hosseini, S. A., Karimi Gharigh, M. R. & Peyghami, S., 6 Oct 2025, *2025 IEEE Kiel PowerTech.* IEEE (Institute of Electrical and Electronics Engineers), 11180553

Enhancing the Resiliency of a Renewable Energy Community under HILP Events by Flexible Energy Resources
Afzali Gorouh, P., Hosseini, S. A., Golmohamadi, H. & Peyghami, S., 6 Oct 2025, *2025 IEEE Kiel PowerTech.* IEEE (Institute of Electrical and Electronics Engineers), 11180241

Optimizing Grid-Forming Wind Turbines Share for Frequency Regulation and LOLF Reduction in Modern Power Systems
Hosseini, S. A. & Peyghami, S., 16 Jun 2025, *2025 IEEE 19th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG).* IEEE (Institute of Electrical and Electronics Engineers), (International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG). Proceedings.).

Exploring wind farm reliability: Key concepts, databases and fault Trees
Hosseini, S. A., Ahmedi, A., Blaabjerg, F. & Peyghami, S., Apr 2025, In: Renewable and Sustainable Energy Reviews. 211 , 115227.

Simulation-Based Assessment of Vibration Effects on IGBT Module Lifetime in Wind Turbines Through Modal and Random Vibration Analysis
Hosseini, S. A., Wu, R. & Peyghami, S., 17 Mar 2025, In: Applied Sciences (Switzerland). 15, 6, 3324.

Reliability Analysis of SiC-MOSFET-Based Integrated Motor Drives for High-Speed Applications
Atashin, S. A., Peyghami, S., Davari, P., Chopade, A. R., Hanigovszki, N. & Blaabjerg, F., 2025, *2025 Energy Conversion Congress and Expo Europe, ECCE Europe 2025 - Proceedings*. IEEE (Institute of Electrical and Electronics Engineers), 11238749

A Comprehensive Review on Uncertainty and Risk Modeling Techniques and Their Applications in Power Systems
Afzali, P., Hosseini, S. A. & Peyghami, S., Dec 2024, In: Applied Sciences (Switzerland). 14, 24, 12042.

Systematic Approach for EMI Equivalent Model Derivation of Three Phase DC-Fed Motor Drives
Babu, P., Tang, Z., Peyghami, S., Blaabjerg, F., Christensen, N. & Davari, P., 9 Oct 2024, *2024 International Conference on Electrical Machines (ICEM)*. IEEE (Institute of Electrical and Electronics Engineers), 7 p. 10700164. (International Conference on Electrical Machines (ICEM)).

Modern Power System Risk Assessment Using Quantum Computing
Hosseini, S. A., Monti, A. & Peyghami, S., 11 Sept 2024, *2024 18th International Conference on Probabilistic Methods Applied to Power Systems (PMAPS)*. IEEE (Institute of Electrical and Electronics Engineers), 10667102. (International Conference on Probabilistic Methods Applied to Power Systems (PMAPS)).

A Novel Reinforcement-Learning-Based Compensation Strategy for DMPC-Based Day-Ahead Energy Management of Shipboard Power Systems
Fu, J., Sun, D., Peyghami, S. & Blaabjerg, F., 1 Sept 2024, In: IEEE Transactions on Smart Grid. 15, 5, p. 4349-4363 15 p., 10479484.

Utilizing Wind Farms and Electric Vehicles to Mitigate the First and Second Frequency Dips in Power Systems
Hosseini, S. A. & Peyghami, S., 1 Aug 2024, *Future Directions in Energy Engineering: Challenges, Opportunities, and Sustainability*. Wang, X. (ed.). Springer, Vol. 1. p. 37-45 9 p. (Green Energy and Technology).

Novel Frequency Regulation Scenarios Generation Method Serving for Battery Energy Storage System Participating in PJM Market
Zhang, Y., Anvari-Moghaddam, A., Peyghami, S. & Blaabjerg, F., Jul 2024, In: Energies. 17, 14, p. 1-16 3479.

Reliability-driven clustering methodology for probabilistic forecast of environmental conditions in power electronics applications
Sandelic, M., Zhang, Y., Peyghami, S., Sangwongwanich, A. & Blaabjerg, F., Jul 2024, In: International Journal of Electrical Power and Energy Systems. 158, p. 1-14 14 p., 109929.

RelyPES: A Tool for Power and Energy System Reliability and Risk Assessment
Peyghami, S., Hosseini, S. A. & Blaaberg, F., 26 Jun 2024, *2024 18th International Conference on Probabilistic Methods Applied to Power Systems (PMAPS)*. IEEE (Institute of Electrical and Electronics Engineers), p. 1-6 6 p. 10667128. (International Conference on Probabilistic Methods Applied to Power Systems (PMAPS)).

A Proactive Operating Strategy for Microgrid Resilience Enhanced for Weather-induced Outages
Zhang, Y., Anvari-Moghaddam, A., Peyghami, S., Li, Y., Dragičević, T. & Blaabjerg, F., 20 May 2024, *2024 IEEE 10th International Power Electronics and Motion Control Conference (IPEMC2024-ECCE Asia): IPEMC 2024-ECCE Asia*. IEEE (Institute of Electrical and Electronics Engineers), p. 4877-4882 6 p. 10567435. (International Power Electronics and Motion Control Conference (PEMC)).

Optimal Sizing of Behind-the-Meter Battery Storage for Providing Profit-Oriented Stackable Services
Zhang, Y., Anvari-Moghaddam, A., Peyghami, S., Li, Y., Dragičević, T. & Blaabjerg, F., Mar 2024, In: IEEE Transactions on Smart Grid. 15, 2, p. 1481-1494 14 p., 10177780.

A Step-Up 5-Level Transformer-Less Switched Capacitor Inverter Without Leakage Current for PV System Application
Ardashir, J. F., Ghadim, H. V., Ogly, A. M., Hu, J. & Peyghami, S., 1 Feb 2024, In: IEEE Transactions on Industry Applications. 60, 1, p. 622-632 11 p., 10254259.

Power electronics building blocks: Control and applications
Abarzadeh, M., Peyghami, S., Al-Haddad, K. & Blaabjerg, F., 1 Jan 2024, *Control of Power Electronic Converters and Systems: Volume 4.* Blaabjerg, F. (ed.). Academic Press, Vol. 4. p. 155-180 26 p.

Resilience vs. reliability metrics in power systems
Aryanfar, M., Fotuhi-Firuzabad, M., Azad, S., Dehghanian, P. & Peyghami, S., 1 Jan 2024, *Future Modern Distribution Networks Resilience: from Passive Operation to Strategic Active Paradigms.* Elsevier, p. 67-90 24 p.

A new risk assessment approach for design of hybrid microgrids considering stability issues
Azizi, A., Blaabjerg, F. & Peyghami, S., Jan 2024, In: IET Generation, Transmission & Distribution. 18, 2, p. 314-325 12 p.

Stability enhancement of bi-directional voltage source converters in modern power systems
Ghasemi, M. A., Zarei, S. F. & Peyghami, S., Jan 2024, In: IET Generation, Transmission and Distribution. 18, 2, p. 266-277 12 p.

A New Multi-Domain Hybrid Microgrid Design Integrating Reliability and Stability Simultaneously
Azizi, A., Peyghami, S. & Blaabjerg, F., 2024, In: IEEE Access. 12, p. 189494-189514 21 p.

A System-Level Design for Reliability of Integrated Motor Drives
Ahooye Atashin, S., Peyghami, S., Davari, P., Chopade, A. R., Hanigovszki, N. & Blaabjerg, F., 2024, *2024 International Conference on Electrical Machines (ICEM).* IEEE (Institute of Electrical and Electronics Engineers), 6 p. 10700144. (International Conference on Electrical Machines (ICEM)).

Robust Control of Voltage Source Converters: A Tube-Based Model Predictive Approach
Oshnoei, A., Derbas, A. A., Peyghami, S. & Blaabjerg, F., 1 Sept 2023, In: IEEE Transactions on Circuits and Systems - II - Express Briefs. 70, 9, p. 3464 - 3468 5 p., 10077805.

A Five-Level Transformer-Less Grid-Tied Inverter Structure With Capacitive Voltage Divider Concept With Leakage Current Elimination
Ardashir, J. F., Ghassemi, M., Rozmeh, B., Blaabjerg, F. & Peyghami, S., Sept 2023, In: I E E E Transactions on Industry Applications. 59, 5, p. 6025 - 6036 12 p., 10124354.

A multi-objective optimal power management strategy for enhancement of battery and propellers lifespan in all-electric ships
Nasiri, S., Parniani, M. & Peyghami, S., 15 Aug 2023, In: Journal of Energy Storage. 65, 107183.

Multi-Year PV Generation Planning Incorporating Power Electronics Impacts in Sizing Decisions
Sandelic, M., Sangwongwanich, A., Peyghami, S. & Blaabjerg, F., Jul 2023, *Proceedings of the 2023 IEEE Power & Energy Society General Meeting (PESGM).* IEEE (Institute of Electrical and Electronics Engineers), p. 1-5 5 p. 10252615. (IEEE Power and Energy Society General Meeting).

A Perspective on Power Converters Design: Stability and Reliability Aspects
Azizi, A., Peyghami, S. & Blaabjerg, F., 25 May 2023, *ICPE 2023-ECCE Asia - 11th International Conference on Power Electronics - ECCE Asia.* IEEE (Institute of Electrical and Electronics Engineers), p. 180-185 6 p. 10213671. (International Conference on Power Electronics).

A modified modal sensitivity method for resonance analysis in power electronic systems
Wang, Y., Xu, Y., Tao, S., Peyghami, S. & Blaabjerg, F., May 2023, In: International Journal of Electrical Power & Energy Systems. 147, p. 1-9 9 p., 108866.

A Tractable Failure Probability Prediction Model for Predictive Maintenance Scheduling of Large-Scale Modular-Multilevel-Converters
Fu, J., Peyghami, S., Núñez, A., Blaabjerg, F. & De Schutter, B., May 2023, In: I E E E Transactions on Power Electronics. 38, 5, p. 6533 - 6544 12 p., 10034825.

Intelligent Control Approach Applied for Grid-Forming Power Converters
Oshnoei, A., Peyghami, S. & Blaabjerg, F., Mar 2023, *Proceedings of the 2023 IEEE Applied Power Electronics Conference and Exposition (APEC).* IEEE (Institute of Electrical and Electronics Engineers), p. 3013-3019 7 p. 10131254. (I E E E Applied Power Electronics Conference and Exposition. Conference Proceedings).

Dissipation Factor as a Degradation Indicator for Electrolytic Capacitors
Ghadrdan, M., Peyghami, S., Mokhtari, H., Wang, H. & Blaabjerg, F., Feb 2023, In: I E E E Journal of Emerging and Selected Topics in Power Electronics. 11, 1, p. 1035-1044 10 p., 9797700.

Floating-Reference On-State Voltage Measurement Strategy for Condition Monitoring Application
Ghadrdan, M., Peyghami, S., Mokhtari, H. & Blaabjerg, F., Feb 2023, In: I E E E Transactions on Power Electronics. 38, 2 , p. 2529-2538 10 p., 9925070.

On-Line Condition Monitoring System for DC-Link Capacitor of Back-to-Back Converters Using Large-Signal Transients
Ghadrdan, M., Abdi, B., Peyghami, S., Mokhtari, H. & Blaabjerg, F., Feb 2023, In: I E E E Journal of Emerging and Selected Topics in Power Electronics. 11, 1, p. 1132 - 1142 11 p., 9743917.

A New Hybrid-Modular Multi-level Inverter with Fault-Tolerant Capability
Rooholahi, B., Peyghami, S. & Bahman, A. S., 2023, *2023 25th European Conference on Power Electronics and Applications, EPE 2023 ECCE Europe.* IEEE (Institute of Electrical and Electronics Engineers), 10264676

An Improved Reduced Parallel Modular Multilevel Converter with Sensorless Capacitor Voltage Balancing
Abarzadeh, M., Afsharikhamaneh, M., Caron, S., Peyghami, S. & Al-Haddad, K., 2023, *2023 25th European Conference on Power Electronics and Applications, EPE 2023 ECCE Europe.* IEEE (Institute of Electrical and Electronics Engineers), 10264560

Techno-Economic Selection of Energy Storage Providing Multiple Services
Zhang, Y., Peyghami, S., Anvari-Moghaddam, A., Zhang, M., Dragičević, T. & Blaabjerg, F., 20 Oct 2022, *Proceedings of the IECON 2022 – 48th Annual Conference of the IEEE Industrial Electronics Society.* IEEE (Institute of Electrical and Electronics Engineers), p. 1-6 6 p. 9968726. (Proceedings of the Annual Conference of the IEEE Industrial Electronics Society).

Power Routing: Active Asset Management in Power Electronics Systems
Peyghami, S. & Blaabjerg, F., Oct 2022, In: I E E E Transactions on Industry Applications. 58, 5, p. 6418-6427 10 p., 9822975.

Power Management Strategies Based on Propellers Speed Control in Waves for Mitigating Power Fluctuations of Ships
Nasiri, S., Peyghami, S., Parniani, M. & Blaabjerg, F., Sept 2022, In: IEEE Transactions on Transportation Electrification. 8 , 3, p. 3247-3260 14 p., 9698238.

An Observer-Based Current Sensor-Less Control Scheme for Grid-Following Converters
Ghasemi, M. A., Zarei, S. F., Sohrabi, Z., Blaabjerg, F. & Peyghami, S., Aug 2022, In: Applied Sciences. 12, 15, p. 1-17 17 p., 7749.

Condition Monitoring of DC-Link Electrolytic Capacitor in Back-to-Back Converters Based on Dissipation Factor
Ghadrdan, M., Peyghami, S., Mokhtari, H. & Blaabjerg, F., Aug 2022, In: I E E E Transactions on Power Electronics. 37, 8 , p. 9733-9744 12 p., 9721605.

Analysis of All-Electric Ship Motions Impact on PV System Output Power in Waves
Nasiri, S., Parniani, M., Blaabjerg, F. & Peyghami, S., Jun 2022, *Proceedings of the 2022 IEEE Transportation Electrification Conference & Expo (ITEC).* Anaheim, CA, USA: IEEE Press, p. 450-455 6 p. 9813953

Long-Term Forecasting Method for Power Electronics-Based System Design

Sandelic, M., Zhang, Y., Peyghami, S., Sangwongwanich, A. & Blaabjerg, F., Jun 2022, *Proceedings of the 2022 17th International Conference on Probabilistic Methods Applied to Power Systems (PMAPS).* Manchester, United Kingdom: IEEE (Institute of Electrical and Electronics Engineers), p. 1-6 6 p. 9810651. (International Conference on Probabilistic Methods Applied to Power Systems (PMAPS)).

Model-based Reliability-Centered Design of Power Electronics Dominated Microgrids

Peyghami, S., Blaabjerg, F. & Fotuhi-Firuzabad, M., Jun 2022, *Proceedings of the 2022 17th International Conference on Probabilistic Methods Applied to Power Systems (PMAPS).* Manchester, United Kingdom: IEEE (Institute of Electrical and Electronics Engineers), p. 1-6 6 p. 9810597. (International Conference on Probabilistic Methods Applied to Power Systems (PMAPS)).

Optimal sizing of behind-the-meter BESS for providing stackable services

Zhang, Y., Anvari-Moghaddam, A., Peyghami, S., Dragičević, T., Li, Y. & Blaabjerg, F., Jun 2022, *Proceedings of the 2022 IEEE 13th International Symposium on Power Electronics for Distributed Generation Systems (PEDG).* IEEE (Institute of Electrical and Electronics Engineers), p. 1-6 6 p. 9923222. (IEEE International Symposium on Power Electronics for Distributed Generation Systems (PEDG)).

Reliability Modelling of Power Electronics with Mission Profile Forecasting for Long-Term Planning

Sandelic, M., Sangwongwanich, A., Peyghami, S. & Blaabjerg, F., Jun 2022, *Proceedings of the 2022 IEEE 13th International Symposium on Power Electronics for Distributed Generation Systems (PEDG).* IEEE (Institute of Electrical and Electronics Engineers), p. 1-6 6 p. 9923304. (IEEE International Symposium on Power Electronics for Distributed Generation Systems (PEDG)).

Risk Evaluation of Hybrid Microgrids Considering DC-Link Voltage Stability

Azizi, A., Peyghami, S., Wang, H. & Blaabjerg, F., Jun 2022, *Proceedings of the 2022 IEEE 13th International Symposium on Power Electronics for Distributed Generation Systems (PEDG).* IEEE (Institute of Electrical and Electronics Engineers) , p. 1-6 6 p. 9923273. (IEEE International Symposium on Power Electronics for Distributed Generation Systems (PEDG)).

System-Level Design for Reliability of Microgrids Considering Power Electronic Failures

Davoodi, A., Peyghami, S., Yang, Y., Dragičević, T. & Blaabjerg, F., Jun 2022, *Proceedings of the 2022 IEEE 13th International Symposium on Power Electronics for Distributed Generation Systems (PEDG).* IEEE (Institute of Electrical and Electronics Engineers), p. 1-6 6 p. 9923258. (IEEE International Symposium on Power Electronics for Distributed Generation Systems (PEDG)).

Reliability aspects in microgrid design and planning: Status and power electronics-induced challenges

Sandelic, M., Peyghami, S., Sangwongwanich, A. & Blaabjerg, F., May 2022, In: Renewable and Sustainable Energy Reviews. 159, p. 1-17 17 p., 112127.

Reliability Modeling and Assessment of De-rated Redundant Power Converters

Peyghami, S., Abarzadeh, M. & Blaabjerg, F., May 2022, *Proceedings of the 2022 International Power Electronics Conference (IPEC-Himeji 2022- ECCE Asia).* Himeji, Japan: IEEE (Institute of Electrical and Electronics Engineers), p. 2544-2551 8 p. 9806972

The Impact of Sun Tracking on the Reliability of Solar Inverters

Azizi, A., Peyghami, S., Zarei, S. F. & Blaabjerg, F., May 2022, *Proceedings of the 2022 International Power Electronics Conference (IPEC-Himeji 2022- ECCE Asia) .* Himeji, Japan: IEEE (Institute of Electrical and Electronics Engineers), p. 1553-1559 7 p. 9807153

Voltage Balancing of Series IGBTs in Short-Circuit Conditions

Zarghani, M., Peyghami, S., Iannuzzo, F., Blaabjerg, F. & Kaboli, S., May 2022, In: I E E E Transactions on Power Electronics. 37, 5, p. 5675-5686 12 p., 9635680.

Efficient Fixed-Switching Modulated Finite Control Set-Model Predictive Control Based on Artificial Neural Networks

Bakeer, A., Alhasheem, M. & Peyghami, S., 1 Mar 2022, In: Applied Sciences (Switzerland). 12, 6, 3134.

Artificial Intelligence and Long-term Performance of Power Electronics Systems
Zhao, S., Peyghami, S., Gebbran, D., Dragicevic, T., Wang, H. & Blaabjerg, F., Mar 2022, *Proceedings of the CIPS 2022; 12th International Conference on Integrated Power Electronics Systems.* 165 ed. Berlin, Germany: VDE Verlag GMBH, Vol. 2022-March. p. 5-14 10 p. 9861944

Towards AI-assisted Long-term Maintenance in Power Electronics
Zhao, S., Peyghami, S., Gebbran, D., Dragicevic, T., Wang, H. & Blaabjerg, F., Feb 2022, In: ETG Journal. 2, p. 6-11 6 p.

A comprehensive theoretical approach for analysing manoeuvring effects on ships by integrating hydrodynamics and power system
Nasiri, S., Peyghami, S., Parniani, M. & Blaabjerg, F., 2022, In: I E T Electrical Systems in Transportation. 12, 2, p. 89-101 13 p.

A Robust MPC Method for Post-Disaster Distribution System Reconfiguration based on Repair Crew Routing
Arjomandi-Nezhad, A., Mazaheri, H., Moeini-Aghtaie, M., Fotuhi-Firuzabad, M., Lehtonen, M. & Peyghami, S., 2022, *2022 17th International Conference on Probabilistic Methods Applied to Power Systems (PMAPS).* IEEE (Institute of Electrical and Electronics Engineers), 9810592. (International Conference on Probabilistic Methods Applied to Power Systems (PMAPS)).

Resilient Power Electronic Systems
Kaboli, S., Peyghami, S. & Blaabjerg, F., 2022, Wiley. 366 p.

The Role of Power Electronics in Modern Energy System Integration
Peyghami, S., Sahoo, S., Wang, H., Wang, X. & Blaabjerg, F., 2022, 1 ed. Now Publishers. 74 p. (Foundations and Trends in Electric Energy Systems; No. 1, Vol. 5).

Weighting Factor Design for FS-MPC in VSCs: A Brain Emotional Learning-Based Approach
Orfi Yeganeh, M. S., Oshnoei, A., Peyghami, S., Mijatovic, N., Dragicevic, T. & Blaabjerg, F., 2022, *2022 24th European Conference on Power Electronics and Applications (EPE'22 ECCE Europe).* IEEE (Institute of Electrical and Electronics Engineers), 9907464

Fast and Accurate Modeling of Power Converter Availability for Adequacy Assessment
Davoodi, A., Peyghami, S., Yang, Y., Dragicevic, T. & Blaabjerg, F., Dec 2021, In: IEEE Transactions on Power Delivery. 36, 6, p. 3992-3995 4 p.

Multi-Converter System Modelling in Cost for Reliability Studies
Sandelic, M., Davoodi, A., Sangwongwanich, A., Peyghami, S. & Blaabjerg, F., Dec 2021, *2021 IEEE 22nd Workshop on Control and Modelling of Power Electronics (COMPEL).* IEEE Press, p. 1-8 8 p. (IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)).

A Fault Detection Scheme for Islanded-Microgrid with Grid-Forming Inverters
Zarei, S. F., Ghasemi, M. A., Peyghami, S. & Blaabjerg, F., Nov 2021, *Proceedings of the 2021 6th IEEE Workshop on the Electronic Grid (eGRID).* IEEE Press, p. 1-6 6 p. 9662140

Employing the Generative Adversarial Networks (GAN) for Reliability Assessment of Converters
Davoodi, A., Peyghami, S., Yang, Y., Dragičević, T. & Blaabjerg, F., 14 Oct 2021, *2021 IEEE Energy Conversion Congress and Exposition (ECCE).* IEEE Communications Society, p. 3623-3629 7 p. 9595614. (IEEE Energy Conversion Congress and Exposition).

A Family of Redundant-Switch Configurations for Improving Fault-tolerant Feature of Power Converters
Rahimi, T., Jahan, H. K., Peyghami, S., Ding, L., Blaabjerg, F. & Davari, P., Oct 2021, *Proceedings of 2021 IEEE Energy Conversion Congress and Exposition (ECCE).* IEEE Press, p. 3592-3598 7 p. 9595308. (IEEE Energy Conversion Congress and Exposition).

A theoretical concept of decoupled current control scheme for grid-connected inverter with l-c-l filter
Ghasemi, M. A., Zarei, S. F., Peyghami, S. & Blaabjerg, F., 2 Jul 2021, In: Applied Sciences (Switzerland). 11, 14, 19 p., 6256.

Intelligent long-term performance analysis in power electronics systems
Peyghami, S., Dragicevic, T. & Blaabjerg, F., 6 Apr 2021, In: Scientific Reports. 11, 1, 18 p., 7557.

Enhanced Frequency Droop Method for Decentralized Power Sharing Control in DC Microgrids
Jafari, M., Peyghami, S., Mokhtari, H. & Blaabjerg, F., Apr 2021, In: I E E E Journal of Emerging and Selected Topics in Power Electronics. 9, 2, p. 1290-1301 12 p., 8995517.

Incorporating Power Electronic Converters Reliability into Modern Power System Reliability Analysis
Peyghami, S., Blaabjerg, F. & Palensky, P., Apr 2021, In: I E E E Journal of Emerging and Selected Topics in Power Electronics. 9, 2, p. 1668 - 1681 14 p., 8962198.

A Thirteen-Level Flying Capacitor based Single-Phase Inverter with Self-Balancing Capability
Ardashir, J. F., Gasemi, M., Rozmeh, B., Peyghami, S. & Blaabjerg, F., 2 Feb 2021, *2021 12th Power Electronics, Drive Systems, and Technologies Conference, PEDSTC 2021.* IEEE Signal Processing Society, p. 1-5 9405968. (2021 12th Power Electronics, Drive Systems, and Technologies Conference, PEDSTC 2021).

An Open-Water Efficiency based Speed Change Strategy with Propeller Lifespan Enhancement in All-Electric Ships
Nasiri, S., Peyghami, S., Parniani, M. & Blaabjerg, F., Jan 2021, In: IEEE Access. 9, p. 22595 - 22604 10 p., 9339911.

A Comprehensive Study on Reliability Performance of Photovoltaic-Battery-Based Microgrids under Different Energy Management Strategies
Jiang, J., Peyghami, S., Coates, C. & Blaabjerg, F., 2021, In: Journal of Energy Storage. 43, 12 p., 103051.

A Decentralized Reliability-Enhanced Power Sharing Strategy for PV-Based Microgrids
Jang, J., Peyghami, S., Coates, C. & Blaabjerg, F., 2021, In: I E E E Transactions on Power Electronics. 36, 6, p. 7281-7293 13 p., 9272881.

An Energy Recovery Scheme for RCD Snubber in the Series Configuration of IGBTs
Zarghani, M., Peyghami, S., Iannuzzo, F., Blaabjerg, F. & Kaboli, S., 2021, *2021 IEEE Energy Conversion Congress and Exposition (ECCE).* p. 5183-5189 (IEEE Energy Conversion Congress and Exposition).

A Novel Five-Level Transformer-less Inverter Topology with Common-Ground for Grid-Tied PV Applications
Fallah Ardashir, J., Gasemi, M., Peyghami, S., Rozmeh, B. & Blaabjerg, F., 2021, *2021 23rd European Conference on Power Electronics and Applications (EPE'21 ECCE Europe).* p. 1-10

A Six-Switch Five-Level Transformer-less Inverter without Leakage Current for Grid-Tied PV System
Fallah Ardashir, J., Gasemi, M., Rozmeh, B., Peyghami, S. & Blaabjerg, F., 2021, *2021 IEEE Energy Conversion Congress and Exposition (ECCE).* p. 2550-2556 (IEEE Energy Conversion Congress and Exposition).

Frequency-Security Constrained Control of Power Electronic-Based Generation Systems
Steinkohl, J., Peyghami, S., Wang, X., Davari, P. & Blaabjerg, F., 2021, In: IET Renewable Power Generation. 15, 10, p. 2246-2256 11 p.

Fuzzy-Based Frequency Security Evaluation of Wind-Integrated Power Systems
Steinkohl, J., Peyghami, S., Wang, X., Davari, P. & Blaabjerg, F., 2021, In: IET Energy Systems Integration. 3, 4, p. 451-463 13 p.

Modeling In-and-Out-of-Water Impact on All-Electric Ship Power System Considering Propeller Submergence in Waves
Nasiri, S., Peyghami, S., Parniani, M. & Blaabjerg, F., 2021, *2021 IEEE Transportation Electrification Conference & Expo (ITEC).* IEEE (Institute of Electrical and Electronics Engineers), p. 533-538 6 p.

Reliability and Performance Improvement of PUC Converter Using A New Single-Carrier Sensor-Less PWM Method with Pseudo Reference Functions
Abarzadeh, M., Peyghami, S., Al-Haddad, K., Weise, N., Chang, L. & Blaabjerg, F., 2021, In: IEEE Transactions on Power Electronics . 36, 5, p. 6092-6105 14 p., 9222099.

Reliability/Cost-based Power Routing in Power Electronic-based Power Systems
Peyghami, S. & Blaabjerg, F., 2021, *2021 IEEE Energy Conversion Congress and Exposition (ECCE).* IEEE (Institute of Electrical and Electronics Engineers), p. 789-795 (IEEE Energy Conversion Congress and Exposition).

Reliability of Modern Power Electronic-based Power Systems
Blaabjerg, F. & Peyghami, S., 2021, *2021 23rd European Conference on Power Electronics and Applications (EPE'21 ECCE Europe).* IEEE (Institute of Electrical and Electronics Engineers), p. P.1-P.10

Smart Grid Challenges and Barriers
Peyghami, S. & Blaabjerg, F., 2021, *Smart Grid and Enabling Technologies.* Wiley, p. 449-467

Availability Modeling in Power Converters Considering Components Aging
Peyghami, S. & Blaabjerg, F., Dec 2020, In: I E E E Transactions on Energy Conversion. 35, 4, p. 1981-1984 4 p., 9173721.

A Decentralized Frequency Regulation Scheme in AC Microgrids
Peyghami, S., Zarei, S. F., Ghasemi, M. A., Palensky, P. & Blaabjerg, F., Nov 2020, *2020 IEEE 21st Workshop on Control and Modeling for Power Electronics, COMPEL 2020.* IEEE Signal Processing Society, p. 1-5 9265766. (IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)).

A Preventive Maintenance Planning Approach for Wind Converters
Davoodi, A., Peyghami, S., Yang, Y., Dragicevic, T. & Blaabjerg, F., Nov 2020, *Proceedings of the 2020 5th IEEE Workshop on the Electronic Grid (eGRID).* IEEE (Institute of Electrical and Electronics Engineers), p. 1-8 8 p.

Asymmetric Cascaded Multilevel Inverter with Capacitor-based Half-bridge Cells and Reduced Number of Components
Eskandari, R., Jahan, H. K., Shotorbani, A. M., Abapour, M., Peyghami, S. & Blaabjerg, F., Nov 2020, *2020 IEEE 21st Workshop on Control and Modeling for Power Electronics, COMPEL 2020.* IEEE Signal Processing Society, p. 1-6 9265696. (IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)).

Demands for Bridging Power Electronics and Power System Engineering Concepts
Peyghami, S. & Blaabjerg, F., Nov 2020, *Proceedings of the 2020 5th IEEE Workshop on the Electronic Grid (eGRID).* IEEE Press, p. 1-8 8 p. 9330663

A Guideline for Reliability Prediction in Power Electronic Converters
Peyghami, S., Wang, Z. & Blaabjerg, F., Oct 2020, In: I E E E Transactions on Power Electronics. 35, 10, p. 10958-10968 11 p., 9042353.

System-level Design for Reliability and Maintenance Scheduling in Modern Power Electronic-based Power Systems
Peyghami, S., Palensky, P., Fotuhi-Firuzabad, M. & Blaabjerg, F., Oct 2020, In: IEEE Open Access Journal of Power and Energy. 7, p. 414 - 429 16 p., 9214842.

Effect of Unipolar and Bipolar SPWM on the Lifetime of DC-link Capacitors in Single-Phase Voltage Source Inverters
Baburajan, S., Davari, P., Peyghami, S., Blaabjerg, F. & Kumar, D., Sept 2020, *2020 22nd European Conference on Power Electronics and Applications, EPE 2020 ECCE Europe.* IEEE Signal Processing Society, 9215656. (2020 22nd European Conference on Power Electronics and Applications, EPE 2020 ECCE Europe).

Maintenance Scheduling in Power Electronic Converters Considering Wear-out Failures
Peyghami, S., Blaabjerg, F., Torres, J. R. & Palensky, P., Sept 2020, *2020 22nd European Conference on Power Electronics and Applications, EPE 2020 ECCE Europe.* IEEE (Institute of Electrical and Electronics Engineers), p. 1-10 10 p. 9215657. (2020 22nd European Conference on Power Electronics and Applications, EPE 2020 ECCE Europe).

Modelling and Analysis of the Reliability of a PhotoVoltaic (PV) Inverter
Davoodi, A., Peyghami, S., Yang, Y., Dragicevic, T. & Blaabjerg, F., Sept 2020, *2020 IEEE 11th International Symposium on Power Electronics for Distributed Generation Systems, PEDG 2020.* IEEE Signal Processing Society, p. 297-303 7 p. 9244471. (IEEE International Symposium on Power Electronics for Distributed Generation Systems (PEDG)).

DC-Link Loop Bandwidth Selection Strategy for Grid-Connected Inverters Considering Power Quality Requirements
Zarei, S. F., Mokhtari, H., Ghasemi, M. A., Peyghami, S., Davari, P. & Blaabjerg, F., Jul 2020, In: International Journal of Electrical Power & Energy Systems. 119, 105879.

Reliability Evaluation in Microgrids with Non-exponential Failure Rates of Power Units
Peyghami, S., Fotuhi-Firuzabad, M. & Blaabjerg, F., Jun 2020, In: I E E E Systems Journal. 14, 2, p. 2861-2872 12 p., 8892731.

A New Guideline for Security Assessment of Power Systems with a High Penetration of Wind Turbines
Shakerighadi, B., Peyghami, S., Ebrahimzadeh, E., Blaabjerg, F. & Bak, C. L., May 2020, In: Applied Sciences. 10, 9, p. 1-16 16 p., 3190.

Time Domain Simulation of A Five-Phase BLDC Motor Drive
Rahimi, T., Ding, L., Peyghami, S., Kheshti, M., Blaabjerg, F. & Davari, P., May 2020, *2020 11th Power Electronics, Drive Systems, and Technologies Conference, PEDSTC 2020.* 9088430

Control of Grid-Following Inverters under Unbalanced Grid Conditions
Zarei, S. F., Mokhtari, H., Ghasemi, M. A., Peyghami, S., Davari, P. & Blaabjerg, F., Mar 2020, In: I E E E Transactions on Energy Conversion. 35, 1, p. 184-192 9 p., 8859288.

An overview on the Reliability of Modern Power Electronic Based Power Systems
Peyghami, S., Palensky, P. & Blaabjerg, F., Feb 2020, In: IEEE Open Journal of Power Electronics. 1, p. 34-50 17 p.

An Adaptive droop Curve for the Superimposed Frequency Method in DC Microgrids
Jafari, M., Peyghami, S., Mokhtari, H. & Blaabjerg, F., 2020, *Proceedings of the 2020 IEEE 21st Workshop on Control and Modeling for Power Electronics (COMPEL).* IEEE (Institute of Electrical and Electronics Engineers), p. 1-6 6 p. (IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)).

Two-Stage Single-Source Full-Bridge Based Three- Phase Inverter for Medium Voltage Applications
Jahan, H. K., Pourebrahim, R., Tohidi, S., Peyghami, S., Shotorbani, A. M. & Blaabjerg, F., 2020, *2020 IEEE 21st Workshop on Control and Modeling for Power Electronics (COMPEL).* IEEE (Institute of Electrical and Electronics Engineers), p. 1-6 (IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)).

Autonomous and Decentralized Load Sharing and Energy Management Approach for DC Microgrids
Azizi, A., Peyghami, S., Mokhtari, H. & Blaabjerg, F., Dec 2019, In: Electric Power Systems Research. 177, 11 p., 106009.

Standard Test Systems for Modern Power System Analysis: An Overview
Peyghami, S., Davari, P., Fotuhi-Firuzabad, M. & Blaabjerg, F., Dec 2019, In: I E E E Industrial Electronics Magazine. 13, 4, p. 86 - 105 20 p., 8939187.

Decentralized Droop Control in DC Microgrids Based on a Frequency Injection Approach
Peyghami, S., Davari, P., Mokhtari, H. & Blaabjerg, F., Nov 2019, In: I E E E Transactions on Smart Grid. 10, 6, p. 6782 - 6791 10 p., 8691623.

Analytical Modeling of 9-150 kHz EMI in Single-Phase PFC Converter
Esfetanaj, N. N., Peyghami, S., Wang, H. & Davari, P., Oct 2019, *Proceedings of IECON 2019 - 45th Annual Conference of the IEEE Industrial Electronics Society.* IEEE Press, (Proceedings of the Annual Conference of the IEEE Industrial Electronics Society).

Security Analysis of Power Electronic-based Power Systems
Shakerighadi, B., Peyghami, S., Ebrahimzadeh, E., Blaabjerg, F. & Bak, C. L., Oct 2019, *Proceedings of IECON 2019 - 45th Annual Conference of the IEEE Industrial Electronics Society.* IEEE Press, p. 4933-4937 5 p. (Proceedings of the Annual Conference of the IEEE Industrial Electronics Society).

Mission-Profile-Based System-Level Reliability Analysis in DC Microgrids
Peyghami, S., Wang, H., Davari, P. & Blaabjerg, F., 1 Sept 2019, In: I E E E Transactions on Industry Applications. 55, 5, p. 5055 - 5067 13 p., 8727971.

System-Level Reliability-Oriented Power Sharing Strategy for DC Power Systems
Peyghami, S., Davari, P. & Blaabjerg, F., 1 Sept 2019, In: I E E E Transactions on Industry Applications. 55, 5, p. 4865 - 4875 11 p., 8718555.

Failure Mode, Effects and Criticality Analysis (FMECA) in Power Electronic based Power Systems
Peyghami, S., Davari, P., Firuzabad, M. F. & Blaabjerg, F., Sept 2019, *Proceedings of 2019 21st European Conference on Power Electronics and Applications (EPE '19 ECCE Europe).* IEEE Press, p. 1-9 9 p. 8915061

Wear-Out Failure of a Power Electronic Converter Under Inversion and Rectification Modes
Peyghami, S., Davari, P., Zhou, D., Fotuhi-Firuzabad, M. & Blaabjerg, F., Sept 2019, *Proceedings of 2019 IEEE Energy Conversion Congress and Exposition (ECCE).* IEEE Press, p. 1598-1604 7 p. 8913144. (IEEE Energy Conversion Congress and Exposition).

Power Electronics-Microgrid Interfacing
Peyghami, S., Alhasheem, M. A. M. Z. Y. & Blaabjerg, F., Jul 2019, *Variability, Scalability and Stability of Microgrids.* Muyeen, S. M., Islam, S. M. & Blaabjerg, F. (eds.). Institution of Engineering and Technology (IET)

Reliability Modeling of Power Electronic Converters: A General Approach
Peyghami, S., Wang, Z. & Blaabjerg, F., Jun 2019, *Proceedings of 2019 20th Workshop on Control and Modeling for Power Electronics (COMPEL).* IEEE Press, 7 p. 8769685. (IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)).

Reliability Assessment of Single-phase PV Inverters
Peyghami, S., Davari, P., Blaabjerg, F. & Abdelhakim, A., May 2019, *Proceedings of 2019 10th International Conference on Power Electronics and ECCE Asia (ICPE 2019 - ECCE Asia).* Korea: IEEE Press, p. 3077-3083 7 p. 8796895. (International Conference on Power Electronics).

Autonomous Operation of a Hybrid AC/DC Microgrid with Multiple Interlinking Converters
Peyghami, S., Mokhtari, H. & Blaabjerg, F., Nov 2018, In: IEEE Transactions on Smart Grid. 9, 6, p. 6480 - 6488 9 p., 7944699.

Active Damping of Torsional Vibrations due to the Sub-harmonic Instability on a Synchronous Generator
Peyghami, S., Azizi, A., Mokhtari, H. & Blaabjerg, F., 30 Oct 2018, *Proceedings of 2018 20th European Conference on Power Electronics and Applications (EPE'18 ECCE Europe).* Latvia: IEEE (Institute of Electrical and Electronics Engineers), p. 1-8 8 p. 8515662

DC Microgrids for Photovoltaic Powered Systems
Heyderi, R., Peyghami, S., Yang, Y., Dragicevic, T. & Blaabjerg, F., Oct 2018, *DC Distribution Systems and Microgrids.* Dragicevic, T., Wheeler, P. & Blaabjerg, F. (eds.). 1 ed. Institution of Engineering and Technology (IET), Vol. 1. p. 389-414 26 p.

Distributed and decentralized control of dc microgrids
Peyghami, S., Mokhtari, H. & Blaabjerg, F., Oct 2018, *DC Distribution Systems and Microgrids.* Dragicevic, T., Wheeler, P. & Blaabjerg, F. (eds.). 1 ed. Institution of Engineering and Technology (IET), Vol. 1. p. 23-42 20 p.

System-level Reliability Enhancement of DC/DC Stage in a Single-Phase PV Inverter
Peyghami, S., Davari, P., Wang, H. & Blaabjerg, F., 1 Sept 2018, In: Microelectronics Reliability. 88-90, p. 1030-1035 6 p.

Mission Profile Based Power Converter Reliability Analysis in a DC Power Electronic Based Power System
Peyghami, S., Wang, H., Davari, P. & Blaabjerg, F., Sept 2018, *Proceedings of the IEEE Energy Conversion Congress and Exposition (ECCE 2018).* USA: IEEE Press, p. 4122 - 4128 7 p. (IEEE Energy Conversion Congress and Exposition).

Reliability and Risk Assessment in a Power Electronic Based Power System (PEPS): Using Non-Constant Failure Rates of Converters
Peyghami, S., Davari, P., Wang, H. & Blaabjerg, F., Sept 2018, *Proceedings of 2018 20th European Conference on Power Electronics and Applications (EPE'18 ECCE Europe).* Latvia: IEEE Press, p. 1-10 10 p. 8515430

Unified Power sharing Control in Hybrid AC/DC Microgrids Employing Synchronous Machine Principle
Heyderi, R., Al hasheem, M., Peyghami, S., Dragicevic, T. & Blaabjerg, F., Sept 2018, *Proceedings of 2018 20th European Conference on Power Electronics and Applications (EPE'18 ECCE Europe).* IEEE Press, p. 1-8 8 p. 8515648

Autonomous Power Management in LVDC Microgrids based on a Superimposed Frequency Droop
Peyghami, S., Mokhtari, H. & Blaabjerg, F., Jun 2018, In: I E E E Transactions on Power Electronics. 33, 6, p. 5341-5350 10 p.

Characterization of Proportional-Integral-Resonant Compensator for DC Link Voltage Control
Zarei, S. F., Ghasemi, M. A., Peyghami, S., Davari, P., Mokhtari, H. & Blaabjerg, F., Jun 2018, *Proceedings of the 19th IEEE Workshop on Control and Modeling for Power Electronics (COMPEL 2018).* IEEE Press, p. 1-8 8 p. 8460151

The Impact of Topology and Mission Profile on the Reliability of Boost-type Converters in PV Applications
Peyghami, S., Davari, P., Wang, H. & Blaabjerg, F., Jun 2018, *Proceedings of the 19th IEEE Workshop on Control and Modeling for Power Electronics (COMPEL).* Italy: IEEE Press, p. 1-8 8 p. 8460177. (IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)).

Distributed Primary and Secondary Power Sharing in a Droop-Controlled LVDC Microgrid with Merged AC and DC Characteristics
Peyghami, S., Mokhtari, H., Loh, P. C., Davari, P. & Blaabjerg, F., May 2018, In: IEEE Transactions on Smart Grid. 9, 3, p. 2284 - 2294 11 p.

System-Level Lifetime-Oriented Power Sharing Control of Paralleled DC/DC Converters
Peyghami, S., Davari, P. & Blaabjerg, F., Mar 2018, *APEC 2018 - 33rd Annual IEEE Applied Power Electronics Conference and Exposition.* IEEE Press, p. 1890-1895 6 p. (IEEE Applied Power Electronics Conference and Exposition (APEC)).

Enhanced Frequency Droop Method for Load Sharing in LVDC Power Systems
Peyghami, S., Davari, P. & Blaabjerg, F., 2018, *9th Annual International Power Electronics, Drive Systems, and Technologies Conference, PEDSTC 2018.* IEEE Press, p. 358-362 5 p.

Synchronverter-Enabled DC Power Sharing Approach for LVDC Microgrids
Peyghami, S., Davari, P., Mokhtari, H., Loh, P. C. & Blaabjerg, F., Oct 2017, In: I E E E Transactions on Power Electronics. 32, 10, p. 8089 - 8099 11 p.

Decentralized Load Sharing in a Low-Voltage Direct Current Microgrid With an Adaptive Droop Approach Based on a Superimposed Frequency
Peyghami, S., Mokhtari, H. & Blaabjerg, F., Sept 2017, In: IEEE Journal of Emerging and Selected Topics in Power Electronics. 5, 3, p. 1205-1215 11 p., 7862742.

On Secondary Control Approaches for Voltage Regulation in DC Microgrids
Peyghami, S., Mokhtari, H., Davari, P., Loh, P. C. & Blaabjerg, F., Sept 2017, In: I E E E Transactions on Industry Applications. 53, 5, p. 4855 - 4862 8 p.

Grid Synchronization for Distributed Generations
Peyghami, S., Mokhtari, H., Blaabjerg, F. & Yang, Y., Jul 2017, *Encyclopedia of Sustainable Technologies: Reference Module in Earth Systems and Environmental Sciences.* Elsevier, Vol. 2017. p. 179-194 16 p.

Hierarchical Power Sharing Control in DC Microgrids
Peyghami, S., Mokhtari, H. & Blaabjerg, F., Oct 2016, *Microgrid: Advanced Control Methods and Renewable Energy System Integration.* Mahmoud, M. (ed.). Butterworth-Heinemann, p. 63–100

A New Secondary Control Approach for Voltage Regulation in DC Microgrids
Peyghami, S., Mokhtari, H., Davari, P., Loh, P. C. & Blaabjerg, F., Sept 2016, *Proceedings of IEEE Energy Conversion Congress and Exposition (ECCE), 2016.* IEEE Press, 6 p.

Smart Power Management of DC Microgrids in Future Milligrids
Peyghami, S., Mokhtari, H., Davari, P., Loh, P. C. & Blaabjerg, F., Sept 2016, *Proceedings of 18th European Conference on Power Electronics and Applications (EPE'16 ECCE Europe), 2016.* IEEE Press, 10 p.

Distributed Secondary Control in DC Microgrids with Low-Bandwidth Communication Link
Loh, P. C., Blaabjerg, F., Peyghami, S. & Mokhtari, H., Feb 2016, *Proceedings of 7th Power Electronics and Drive Systems Technologies Conference (PEDSTC), 2016: PEDSTC2016.* IEEE Press, p. 641 - 645 5 p.

Awards

FleetWise:: FleetWise: Cost-Effective Maintenance for Wind and PV Power
Peyghami, S. (PI), Hosseini, S. A. (CoI), Tahir, M. U. (CoI) & Brohus, K. L. (PI)
Aalborg University: DKK75.11
01/03/2026 → 31/12/2026

Projects

Electromagnetic Interference Analysis and Mitigation of Highly Integrated Power Electronics in Motor Drives
Babu, P. (PI), Davari, P. (Supervisor), Blaabjerg, F. (Supervisor) & Peyghami, S. (Supervisor)
01/10/2023 → 30/09/2026

FleetWise:: FleetWise: Cost-Effective Maintenance for Wind and PV Power
Peyghami, S. (PI), Hosseini, S. A. (CoI) & Tahir, M. U. (CoI)
Aalborg University
01/03/2026 → 31/12/2026

FLEXIGRID: Flexible Future Power Electronics Dominated 100% Renewable Grids
Blaabjerg, F. (PI), Peyghami, S. (CoI), Hosseini, S. A. (CoI) & Wu, J. (Project Participant)
Clean Energy Transition Partnership
01/10/2025 → 30/09/2028

Integrated Design for Reliability of Motor Drives in High-Power High-Speed Machines
Ahooye Atashin, S. (PI), Blaabjerg, F. (Supervisor), Peyghami, S. (Supervisor) & Davari, P. (Supervisor)
01/01/2024 → 31/12/2026

Integrated Design of Microgrids Considering Reliability and Stability
Azizi, A. (PI), Blaabjerg, F. (Supervisor) & Peyghami, S. (Supervisor)
01/11/2021 → 31/10/2024

HIPO: Integrated High-speed Power Systems for Industry and Mobile Applications
Davari, P. (PI), Peyghami, S. (Project Participant), Blaabjerg, F. (Project Manager) & Frøstrup, S. (Project Coordinator)
European Commission
01/09/2022 → 31/08/2026

HydroHeat: Intelligent Hydrogen Software for High-Efficiency Renewable Heat Integration
Golmohamadi, H. (PI), Peyghami, S. (CoPI) & Golestan, S. (Project Participant)
01/01/2026 → 31/08/2026

Optimal Allocation of Hybrid Energy Storage Systems for Stackable Applications in Distribution Grid
Zhang, Y. (PI), Blaabjerg, F. (Supervisor), Peyghami, S. (Supervisor), Dragicevic, T. (Supervisor) & Anvari-Moghaddam, A. (Supervisor)
01/05/2021 → 30/04/2024

Pro-Risk: Pro-Risk: mathematical methods for Probabilistic Risk modeling of green electric power systems
Peyghami, S. (PI), Hosseini, S. A. (Project Participant) & Frøstrup, S. (Project Coordinator)
Independent Research Fund Denmark
01/04/2023 → 30/09/2026

RAWFaEL: Reliability Assessment of Wind Farm Electrical System
Peyghami, S. (PI), Hosseini, S. A. (Project Participant) & Frøstrup, S. (Project Coordinator)
01/06/2023 → 31/07/2024

RELIABILITY-ORIENTED DESIGN OF A MICROGRID SYSTEM
Sandelic, M. (PI), Blaabjerg, F. (Supervisor), Sangwongwanich, A. (Supervisor) & Peyghami, S. (Supervisor)
01/10/2020 → 30/09/2023

RelyPES: RelyPES
Peyghami, S. (PI), Hosseini, S. A. (CoI) & Zäch, M. R. (Project Applicant)
AAU Proof of Concept, Aalborg University
15/04/2026 → 14/10/2026

RelyPES: RelyPES: A Reliability and Risk Assessment Software Tool for Power and Energy Systems
Peyghami, S. (PI) & Frøstrup, S. (Project Coordinator)
Innovation Fund Denmark
01/01/2023 → 31/03/2024

SOLARIS: SOLARIS
Peyghami, S. (PI), Davari, P. (CoI), Hosseini, S. A. (Project Participant), Tahir, M. U. (Project Participant) & Frøstrup, S. (Project Coordinator)
Horizon Europe
01/07/2024 → 30/06/2028

System-Level Reliability Modelling and Evaluation in Power Electronic Based Generation Systems
Davoodi, A. (PI), Blaabjerg, F. (Supervisor), Yang, Y. (Supervisor) & Peyghami, S. (Supervisor)
01/09/2019 → 31/08/2022