

Pooya Davari
Professor
AAU Energy
The Faculty of Engineering and Science
Applied Power Electronic Systems
Applied Power Electronic Systems
EMI/EMC in Power Electronics
Reliability of Power Electronic Components
Type of address: Visiting address.
Pontoppidanstræde 111
1.165
9220
Aalborg Øst
Denmark
Email: pda@energy.aau.dk
Phone: +4599408461



Employment

Professor

Professor
AAU Energy
The Faculty of Engineering and Science
Aalborg Øst, Denmark
1 Aug 2014 → 31 Dec 4712

Professor

Professor
The Faculty of Engineering and Science
Aalborg Øst, Denmark
1 Aug 2014 → 31 Dec 4712

Applied Power Electronic Systems

The Faculty of Engineering and Science
Aalborg Øst, Denmark
1 Jan 2021 → present

Professor

Professor
Applied Power Electronic Systems
The Faculty of Engineering and Science
Aalborg Øst, Denmark
1 Aug 2014 → 31 Dec 4712

EMI/EMC in Power Electronics

The Faculty of Engineering and Science
Aalborg Øst, Denmark
1 Jan 2021 → present

Reliability of Power Electronic Components

The Faculty of Engineering and Science
Aalborg Øst, Denmark
1 Jan 2021 → present

Publications

Impedance Analysis of Single-Phase PFC Converter in the Frequency Range of 0–150 kHz

Davari, P. & 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. 2522-2528 7 p. 9807125

Investigation of acoustic emission as a non-invasive method for detection of power semiconductor aging

Davari, P., Kristensen, O. D. & Iannuzzo, F., Sept 2018, In: *Microelectronics Reliability*. 88-90, p. 545-549 5 p.

Improving 9-150 kHz EMI Performance of Single-Phase PFC Rectifier

Davari, P., Hoene, E., Zare, F. & Blaabjerg, F., Mar 2018, *Proceedings of CIPS 2018 - 10th International Conference on Integrated Power Electronics Systems*. VDE Verlag GMBH, p. 512-517 6 p.

Active Rectifiers and Their Control

Davari, P., Zare, F. & Abdelhakim, A., 2018, *Control of Power Electronic Converters and Systems*. Blaabjerg, F. (ed.). Academic Press, Vol. 2. p. 3-52 50 p.

A Review of Electronic Inductor Technique for Power Factor Correction in Three-Phase Adjustable Speed Drives

Davari, P., Yang, Y., Zare, F. & Blaabjerg, F., Sept 2016, *Proceedings of IEEE Energy Conversion Congress and Exposition (ECCE), 2016*. IEEE Press, 8 p.

Energy Saving in Three-Phase Diode Rectifiers Using EI Technique with Adjustable Switching Frequency Scheme

Davari, P., Zare, F., Yang, Y., Kumar, D. & Blaabjerg, F., Sept 2016, *Proceedings of 18th European Conference on Power Electronics and Applications (EPE'16 ECCE Europe), 2016*. IEEE Press, 10 p.

Predictive Pulse Pattern Current Modulation Scheme for Harmonic Reduction in Three-Phase Multidrive Systems

Davari, P., Yang, Y., Zare, F. & Blaabjerg, F., Sept 2016, In: *IEEE Transactions on Industrial Electronics*. 63, 9, p. 5932-5942 11 p.

Pulse Pattern-Modulated Strategy for Harmonic Current Components Reduction in Three-Phase AC–DC Converters

Davari, P., Zare, F. & Blaabjerg, F., Jul 2016, In: *IEEE Transactions on Industry Applications*. 52, 4, p. 3182-3192 11 p.

Adjustable Speed Drives and Power Quality: Challenges and Cost-Effective Opportunities

Davari, P., Yang, Y., Zare, F. & Blaabjerg, F., May 2016, *Proceedings of the 2016 8th International Power Electronics and Motion Control Conference - ECCE Asia (IPEMC 2016-ECCE Asia)*. IEEE Press, p. 2594 - 2601 8 p.

A Multipulse Pattern Modulation Scheme for Harmonic Mitigation in Three-Phase Multimotor Drives

Davari, P., Yang, Y., Zare, F. & Blaabjerg, F., Mar 2016, In: *IEEE Journal of Emerging and Selected Topics in Power Electronics*. 4, 1, p. 174-185 12 p.

Investigating Pulsed Discharge Polarity Employing Solid-State Pulsed Power Electronics

Davari, P., Zare, F. & Blaabjerg, F., 26 Nov 2015, In: *Electric Power Components & Systems*. 43, 19, p. 2214-2222 9 p.

A Novel Harmonic Elimination Approach in Three-Phase Multi-Motor Drives

Davari, P., Yang, Y., Zare, F. & Blaabjerg, F., Sept 2015, *Proceedings of the 2015 IEEE Energy Conversion Congress and Exposition (ECCE)*. IEEE Press, p. 7001-7008 8 p.

A Smart Current Modulation Scheme for Harmonic Reduction in Three-Phase Motor Drive Applications

Davari, P., Zare, F. & Blaabjerg, F., Sept 2015, *Proceedings of the 2015 17th European Conference on Power Electronics and Applications (EPE'15 ECCE-Europe)*. IEEE Press, p. 1-10 10 p.

Pulse pattern modulated strategy for harmonic current components reduction in three-phase AC-DC converters

Davari, P., Zare, F. & Blaabjerg, F., Sept 2015, *Proceedings of the 2015 IEEE Energy Conversion Congress and Exposition (ECCE)*. IEEE Press, p. 5968-5975 8 p.

Power converters design and analysis for high power piezoelectric ultrasonic transducers
Davari, P., Ghasemi, N. & Zare, F., Aug 2014, *Proceedings of the 16th Conference on Power Electronics and Applications, EPE'14-ECCE Europe*. IEEE Press, p. 1-9 9 p.

Analysing DBD plasma lamp intensity versus power consumption using a push-pull pulsed power supply
Davari, P., Zare, F. & Ghosh, A., 2013, *Proceedings of the 15th European Conference on Power Electronics and Applications (EPE 2013)*. IEEE Press, 8 p.

Parallel and series configurations of flyback converter for pulsed power applications
Davari, P., Zare, F. & Ghosh, A., 1 Dec 2012, *Proceedings of the 2012 7th IEEE Conference on Industrial Electronics and Applications, ICIEA 2012*. p. 1517-1522 6 p. 6360964

A flexible solid-state pulsed power topology
Davari, P., Zare, F. & Ghosh, A., 2012, *Power Electronics and Motion Control Conference (EPE/PEMC)*.

High-Voltage Modular Power Supply Using Parallel and Series Configurations of Flyback Converter for Pulsed Power Applications
Davari, P., Zare, F., Ghosh, A. & Akiyama, H., 2012, In: *IEEE Transactions on Plasma Science*. 40, 10, p. 1-10 10 p.

Improving the efficiency of high power piezoelectric transducers for industrial applications
Davari, P., Ghasemi, N., Zare, F., O'Shea, P. & Ghosh, A., 2012, In: *IET Science, Measurement & Technology*. 6, 4, p. 213-221 9 p.

Parallel and Series Configurations of Flyback Converter for Pulsed Power Applications
Davari, P., Zare, F. & Ghosh, A., 2012, *IEEE/ICIEA*.

Designing a new robust on-line secondary path modeling technique for feedforward active noise control systems
Davari, P. & Hassanpour, H., Jun 2009, In: *Signal Processing*. 89, 6, p. 1195-1204 10 p.

A New Feedback ANC System Approach
Davari, P. & Hassanpour, H., Mar 2009, *Proceedings of 13th International CSI Computer Science*. Springer, Vol. 6. p. 324-331 8 p. (Advances in Computer Science and Engineering).

A self-tuning feedforward active noise control system
Davari, P. & Hassanpour, H., Mar 2009, In: *IEICE Electronics Express*. 6, 5, p. 230-236 7 p.

A robust feedforward active noise control system with a variable step-size fxlms algorithm: Designing a new online secondary path modelling method
Davari, P. & Hassanpour, H., Sept 2008, In: *International Journal of Engineering-Transactions A: Basics*. 21, 3, p. 231-242 12 p.

An optimized online secondary path modeling method for single-channel feedback ANC systems
Davari, P. & Hassanpour, H., Aug 2008, In: *International Journal of Engineering-Transactions A: Basics*. 22, 1, p. 1 12 p.

A new online secondary path modelling method for feedforward active noise control systems
Davari, P. & Hassanpour, H., Apr 2008, *Proceedings of Industrial Technology, 2008. ICIT 2008. IEEE International Conference*. IEEE Press, p. 1-6 6 p.

A variable step-size FxLMS algorithm for feedforward active noise control systems based on a new online secondary path modelling technique
Davari, P. & Hassanpour, H., Apr 2008, *Proceedings of Computer Systems and Applications, 2008. AICCSA 2008. IEEE/ACS International Conference*. IEEE Press, p. 74-81 8 p.

A New Face Recognition System-Using HMMs Along with SVD Coefficients.

Davari, P. & Miar Naimi, H., 2008, *International Conference on Computer Vision Theory and Applications, VISAPP 2008*. p. 200-205 6 p.

Benefiting White Noise in Developing Feedforward Active Noise Control Systems

Davari, P. & Hassanpour, H., 2008, *Proceedings of Advances in Computer Science and Engineering*. Springer, p. 332-339 8 p.

Press clippings

CLEAN-POWER: NEW GRANT WITHIN POWER ELECTRONICS FROM INDEPENDENT RESEARCH FUND DENMARK (DFF)

Davari, P.

15/10/2021

1 Media contribution

Forskningsprojekt vil fjerne barriere for grøn omstilling af el-nettet

Davari, P.

02/05/2023 → 08/05/2023

3 items of Media coverage

HOW ELECTROMAGNETIC COMPATIBILITY OF POWER ELECTRONIC SYSTEMS CONTRIBUTES TO “CLIMATE ACTION”

Davari, P.

14/09/2020

1 item of Media coverage

Iranian classmates reunited in Queensland lab make medical breakthrough

Davari, P.

27/03/2014

1 item of Media coverage

LOW HARM-projektet sætter fokus på strømforsyninger

Davari, P.

08/06/2020

1 item of Media coverage

Postdoc grants from the Danish Council for Independent Research | Technology and Production Sciences, September 2015

Davari, P.

01/09/2015

1 Media contribution

AAU-talent modtager Danmarks ældste ingeniørpris

Davari, P.

28/03/2022

1 item of Media coverage

Activities

Power Electronics for a Sustainable Society

Davari, P. (Lecturer)

9 May 2022

SUSTAINABLE DIGITAL INFRASTRUCTURE ALLIANCE (SDIA) (External organisation)

Davari, P. (Member)
Apr 2021

IEEE EMC Society (External organisation)

Davari, P. (Chairperson)
Feb 2021

Applied Sciences (Journal)

Davari, P. (Editor)
2021

Power Electronic Devices and Components (Journal)

Davari, P. (Editor)
2021

Power Electronics Ready for New Grid Requirements

Davari, P. (Lecturer)
2 Nov 2020

Circuit World (Journal)

Davari, P. (Editor)
Sept 2020

21st IEEE Workshop on Control and Modeling for Power Electronics, COMPEL 2020

Davari, P. (Organizer)
2020

Magnetism (Journal)

Davari, P. (Editor)
2020

Journal of Power Electronics (Journal)

Davari, P. (Editor)
Feb 2019

Application of Power Electronics (Journal)

Blaabjerg, F. (Peer reviewer), Dragicevic, T. (Peer reviewer) & Davari, P. (Peer reviewer)
2019 → ...

Application of Power Electronics (Journal)

Blaabjerg, F. (Peer reviewer), Dragicevic, T. (Peer reviewer) & Davari, P. (Peer reviewer)
2019 → ...

Danish Standards (External organisation)

Davari, P. (Member)
2019

International Electrotechnical Commission (IEC) (External organisation)

Davari, P. (Member)
2019

Electronics Letters (Journal)

Davari, P. (Editor)
Jun 2018 → ...

29th European Symposium on Reliability of Electron Devices, Failure Physics and Analysis

Davari, P. (Organizer)
2018

Applied Sciences (Journal)

Davari, P. (Editor)
2018

Rectification Harmonics in Motor Drives: Modeling and Control

Davari, P. (Lecturer), Yang, Y. (Lecturer) & Zhou, D. (Lecturer)
29 Oct 2017

EMC Design of Drive Systems [Modeling, Prediction and Mitigation of Grid-Side 0-150 kHz Harmonic Emissions]

Davari, P. (Lecturer)
12 Jun 2017 → 13 Jun 2017

Strategies in Protecting Future Power Grids from Rectifier's Harmonic Emissions (0-150 kHz): Modelling, Prediction and Mitigation

Davari, P. (Lecturer)
3 May 2017

EPE (External organisation)

Davari, P. (Member)
2017

42nd Conference of the Industrial Electronics Society, IECON 2016

Davari, P. (Participant)
25 Oct 2016

International Journal of Power Electronics (Journal)

Davari, P. (Editor)
Jul 2016 → ...

Seventh Annual IEEE Energy Conversion Congress & Exposition (ECCE 2015)

Davari, P. (Speaker)
22 Sept 2015 → 30 Sept 2015

17th European Conference on Power Electronics and Applications, EPE-ECCE Europe 2015

Davari, P. (Speaker)
8 Sept 2015 → 10 Sept 2015

HARMONY Symposium 2015

Davari, P. (Speaker)
31 Aug 2015

Leading the Virtual Company – Pasteur Program 2015

Davari, P. (Participant)
27 Jan 2015 → 16 Nov 2015

International Power Electronics and Motion Control Conference 2012 (EPE-PEMC 2012)

Davari, P. (Speaker)
4 Sept 2012 → 6 Sept 2012

7th IEEE Conference on Industrial Electronics and Applications

Davari, P. (Speaker)

18 Jul 2012 → 31 Jul 2012

Projects

An Optimized Dual Active Bridge Converter for EV On-board Charger

Liu, B. (PI), Davari, P. (Supervisor) & Blaabjerg, F. (Supervisor)

01/12/2017 → 01/12/2020

BioCat Roslev – Phase 1

Blaabjerg, F. (PI) & Davari, P. (Col)

EUDP

26/09/2018 → 31/08/2019

BMS-DC: Next Generation BMS Technology for Data Centers

Oshnoei, A. (PI), Davari, P. (CoPI), Teodorescu, R. (CoPI) & Steffensen, B. (Project Coordinator)

Energy Cluster Denmark

01/04/2024 → 31/12/2024

CAPeX: CAPeX - Pionercenter for Accelerating P2X Materials Discovery

Blaabjerg, F. (PI), Jensen, S. H. (CoPI), Wang, H. (Project Participant), Davari, P. (Project Participant), Olguín Godoy, V. (Project Participant), Pedersen, K. (Project Participant), Bøgh, S. (Project Participant), Pérez Millan, A. (Project Participant), Vasudev, A. P. (Project Participant) & Frøstrup, S. (Project Coordinator)

01/05/2023 → 30/04/2036

CLEAN-Power: Compatibility and Low electromagnetic Emission Advancements for Next generation Power electronic systems

Davari, P. (PI), Xue, P. (Project Participant), Tang, Z. (Project Participant) & Frøstrup, S. (Project Coordinator)

Independent Research Fund Denmark

01/07/2022 → 30/06/2026

Deep learning based transformer fault diagnosis method via vibration signal

Li, C. (PI) & Davari, P. (Supervisor)

12/11/2021 → 12/11/2022

Design and Control of Single-Phase WBG Based Grid Connected Inverter in Photovoltaic Applications

Liu, C. (PI), Davari, P. (Supervisor) & Blaabjerg, F. (Supervisor)

01/02/2023 → 31/01/2026

EMC-Power: ElectroMagnetic Compatibility design and modeling in three-phase Power converters

Davari, P. (PI), Blaabjerg, F. (Project Manager) & Xue, P. (Project Participant)

Schneider Electric

01/01/2021 → 30/04/2023

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

NextGen EMC Lab: EMI/EMC Research Infrastructure for Next Generation Power Electronics

Davari, P. (PI)

The Fabrikant Mads Clausen Foundation, Faculty of Engineering and Science and AAU Energy, Other private funding

01/06/2022 → 31/12/2022

BlueBat: Enabling Hybridization in Next-Generation Maritime Battery Systems

Oshnoei, A. (PI), Davari, P. (CoPI), Steffensen, B. (Project Coordinator) & Zheng, Y. (Project Participant)
01/01/2026 → 31/12/2027

eSMR-MeOH: eSMR-MeOH: Biogas to MeOH by electric reforming

Blaabjerg, F. (PI), Davari, P. (Col) & Yang, Y. (Col)
EUDP
01/08/2019 → 31/10/2024

HiRED: High Quality and Robust Energy Conversion Systems for Distributed Network

Davari, P. (PI)
Australian Research Council (ARC)
16/11/2018 → 31/12/2022

Improvement of AC-DC multi-terminal microgrids' protection against short circuit

Zarei, S. F. (PI), Davari, P. (Supervisor) & Blaabjerg, F. (Supervisor)
01/08/2017 → 01/03/2018

Improvement of Transient Power Sharing Performance in Parallel Converter System and Microgrids

Alhasheem, M. A. M. Z. Y. (PI) & Davari, P. (Supervisor)
01/11/2016 → 01/12/2019

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

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

Minimization of microgrid voltages harmonic distortion using remaining capacity of power electronic based distributed energy resources

Adineh, B. (PI), Davari, P. (Supervisor) & Blaabjerg, F. (Supervisor)
01/10/2019 → 31/07/2020

MEGA: Modular Efficient power Generation with Advanced fuel cell power converters

Davari, P. (PI), Blaabjerg, F. (Project Participant), Sangwongwanich, A. (Project Participant) & Frøstrup, S. (Project Coordinator)
EUDP
01/04/2023 → 31/03/2027

Multi-Physics of High Power Density Power Electronic Systems

Davari, P. (PI) & Steffensen, B. (Project Coordinator)
DFF-Individuelle postdocstipendier : DFF-1333-00034
01/03/2016 → 31/05/2018

SiC4GRID: Next generation modular sic-based advanced power electronics converters for enhanced renewables integration into the grid

Davari, P. (PI), Blaabjerg, F. (Project Manager), Sahoo, S. (Project Participant), Song, C. (Project Participant), Frøstrup, S. (Project Coordinator) & Xue, P. (Project Participant)
European Commission
01/10/2022 → 30/09/2026

NHTD: New Harmonic Reduction Techniques for Motor Drives

Blaabjerg, F. (PI), Davari, P. (Project Participant), Yang, Y. (Project Participant) & Soltani, H. (Project Participant)

The Danish National Advanced Technology Foundation
01/05/2014 → 30/11/2017

Online Condition-Monitoring of Power Semiconductor Devices using Acoustic Time-frequency Spectral Signature
Davari, P. (PI), Iannuzzo, F. (Col) & Kristensen, O. D. (Project Participant)
Department of Energy Technology
15/08/2017 → 14/04/2018

Optimal Designing and Construction of a New Multilevel Inverter with the Purpose of Improving the Operational Parameters
Orfi Yeganeh, M. S. (PI) & Davari, P. (Supervisor)
01/11/2019 → 01/11/2020

Physics based High Level Digital Twin concept modelling for Power2X systems
Olguín Godoy, V. (PI), Blaabjerg, F. (Supervisor) & Davari, P. (Supervisor)
01/10/2023 → 30/09/2026

LOW HARM : Power Electronics Ready for New Grid Harmonic Requirements
Davari, P. (PI) & Østergaard, J. (Project Coordinator)
Innovationsnetværket Smart Energy (Inno-SE)
01/10/2019 → 30/09/2020

PEMC: Power Electronics Software Tool for ElectroMagnetic Interference Pre-compliance
Davari, P. (PI), Tang, Z. (Project Participant), Xue, P. (Project Participant), Yuan, J. (Project Participant), Wani, U. B. (Project Participant) & Frøstrup, S. (Project Coordinator)
Innovation Fund Denmark
01/01/2022 → 30/06/2023

Probabilistic Assessment and Robustness Analysis of Power Electronic Sub-System for Grid Applications
Gholami-Khesht, H. (PI), Blaabjerg, F. (Supervisor), Davari, P. (Supervisor) & Wang, X. (Supervisor)
01/06/2019 → 31/05/2022

Pulsed Power Supply Reliability
Zhao, Z. (PI), Davari, P. (Supervisor) & Blaabjerg, F. (Supervisor)
15/09/2019 → 15/09/2020

Pyroelectricity for Multiphysics Sensing and Energy Harvesting
Rezaniakolaei, A. (PI), Davari, P. (Col) & Miltersen, A. H. (Project Coordinator)
Aalborg University
01/05/2021 → 31/10/2021

Reliable Control of Power Electronic based Power Systems
Steinkohl, J. (PI), Wang, X. (Supervisor), Davari, P. (Supervisor) & Blaabjerg, F. (Supervisor)
01/04/2018 → 07/07/2021

REPEPS: RELIABLE POWER ELECTRONIC BASED POWER SYSTEM
Blaabjerg, F. (PI), Iannuzzo, F. (Col), Davari, P. (Col), Wang, H. (Col), Wang, X. (Col) & Yang, Y. (Col)
01/08/2017 → 01/12/2023

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

Stable-Drives: Stability enhancement methodologies for slim dc-link Drives

Davari, P. (PI) & Blaabjerg, F. (Project Manager)

01/12/2020 → 15/03/2021

STUDY OF SPECTRAL CHARACTERISTICS OF LOW FREQUENCY CONDUCTED EMI IN POWER ELECTRONIC BASED SYSTEMS

Esfetanaj, N. N. (PI), Wang, H. (Supervisor) & Davari, P. (Supervisor)

01/07/2018 → 10/06/2021

Supra-EMC: Supraharmonics ElectroMagnetic Compatibility strategies in power electronic based power grid

Davari, P. (PI), Blaabjerg, F. (CoPI), Wang, H. (Project Participant) & Frøstrup, S. (Project Coordinator)

Innovation Fund Denmark

01/05/2023 → 31/10/2027

Synchronization Stability of Grid-Connected Converters under Grid Faults

Taul, M. G. (PI), Blaabjerg, F. (Supervisor), Wang, X. (Supervisor) & Davari, P. (Supervisor)

01/09/2017 → 11/08/2020

Topology Derivation and Mission Profile Based Modeling of Bridgeless PFC Converters

Chen, Z. (PI), Davari, P. (Supervisor) & Wang, H. (Supervisor)

01/02/2018 → 19/02/2021

Topology Optimization for High Efficiency Wide Band Gap Ground Power Unit

Blaabjerg, F. (PI), Nielsen, A. B. (Project Participant) & Davari, P. (Project Manager)

Innovation Fund Denmark

01/05/2018 → 30/04/2021

TRANSIT: Transforming Maritime Safety and Sustainability with Advanced Battery Systems

Oshnoei, A. (PI), Davari, P. (CoPI) & Steffensen, B. (Project Coordinator)

Den Danske Maritime Fond

01/10/2025 → 30/09/2027

HYBATT: AAU Bubble Project: Prototyping Optimization and Digital Twin Tools for Hybrid Maritime Battery Systems

Oshnoei, A. (PI) & Davari, P. (CoPI)

01/01/2026 → 30/06/2026

2016	Lorem ipsum dolor sit amet
2015	Lorem ipsum dolor sit amet
2014	Lorem ipsum dolor sit amet
2013	Lorem ipsum dolor sit amet
2012	Lorem ipsum dolor sit amet
2011	Lorem ipsum dolor sit amet