Dr. Zian Qin, Assoc. Prof., Z.Qin-2@tudelft.nl, Tel: +31 15 27 86584

Associate Professor, IEEE Senior Member
Founding Chair of IEEE Benelux Section Transportation Electrification Council Chapter
Dutch National Member of Cigre WG B4.101 (grid forming energy storage)
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EDUCATION

2015	Ph.D. Aalborg University (AAU), Denmark
	(supervised by Prof. Frede Blaabjerg, Prof. Poh Chiang Loh and Prof. Marco Liserre)
2012	Master Degree, Beijing Institute of Technology (BIT), China
	(Honorary Title of Excellent Master's Graduate, Beijing Institute of Technology)
2009	Bachelor Degree, Beihang University (BUAA), China
	(Honorary Title of Excellent Bachelor's Graduate, Beijing City)

POSITIONS

2024-	Assoc. Prof., Delft University of Technology, Netherlands
2022-2024	Tenured Assist. Prof., Delft University of Technology, Netherlands
2017-2021	Assist. Prof., Delft University of Technology, Netherlands
2015-2017	Postdoc, Aalborg University, Denmark
2014	Visiting Scientist, RWTH-Aachen University, Germany – 3 months
2012	Intern, China Academy of Sciences, China – 3 months

SCIENTIFIC FOCUS AREAS

- Power quality and stability of power electronics-based systems
- Power module design and grid interface in EV charging
- Battery state estimation and fault detection

PROJECTS

2024-2027 Grow – Scalable grid forming energy storage with intelligent control systems, 300 k€, PI
- To develop power supply solution for remote area in Africa

2024-2027 ECS4DRES - Grid Forming Energy Storage Systems, 900k€, PI
- To develop battery energy storage systems with grid-forming capability for energy hubs

2023-2027 Power Quality of Heavy-Duty Truck Charging hubs, 450k€, PI
- To develop a power quality analysis tool for heavy-duty truck charging hubs

2023-2027 Intelligent Battery Management Systems, PI
- To design and develop AI-empowered BMS

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2022-2026 FlexH2 – A Flexible Offshore Wind Hydrogen Power Plant Module (MOOI), 750 k€, PI

- To design and develop a medium voltage MW scale solid-state transformer for hydrogen electrolyzer. Partners: Shell, Vonk, ABB, GE, etc.

2020-2023 NEON – Lighting the way to zero-emission energy and mobility (NWO), 600 k€, Co-PI

- To study balancing, stability, and protection of shipboard bipolar DC grids. Partners: Damen, etc. **A Dutch patent granted**

2020-2023 Optimal operation of maritime batteries, 100 k€, PI

- To provide consultation to Equinor regarding maritime batteries.

2020-2023 PROGRESSUS - Highly efficient and trustworthy electronics, components, and systems for the next generation energy supply infrastructure (EU ECSEL-RIA), 630 k€, PI

- To study the power quality of EV charging, including its modelling and mitigation measures. Partners include Infineon, ElaadNL, Heliox, etc.

2019-2022 Power2Power - Next-generation silicon-based power electronics for decarbonization in mobility, industry and grid (EU ECSEL-IA), 596 k€, Co-PI

- To design and develop the power modules for fast EV chargers, including design, simulation, prototyping and testing. Partners include Infineon, ABB, etc.

2017-2019 Low-Harm - Large Offshore Wind Harmonics Mitigation (TKI Wind op zee), PI

- To study harmonics of offshore wind farm, including its modelling and evaluation. Partners include TenneT, etc.

2016-2019 Distribution technologies for smart buildings (STW)

- To design and develop multi-port power converters, including design, simulation, prototyping, and testing. **A Dutch patent granted.**

2016-2019 DCSMART-DC Distribution Smart Grids project (ERA-NET Horizon 2020)

- To study power flow control and protection of meshed LVDC grids, including modelling, converter design, prototyping and testing.

2015-2017 CROSSROADS - A unique high-reliability power backup solution, Danish EUDP project

- To design the power system for a DC UPS of an industrial partner that is adaptable to batteries with various voltage levels, including power module design, prototyping and testing

2012-2017 CORPE - Center of Reliable Power Electronics, Danish Innovation fund

- To study the reliability of power converters, including the failure mechanisms, lifetime modeling, and reliability-enhanced design

PUBLICATION STATISTICS

- Google Scholar: H-index: 28, citations: 3000+
- 100+ refereed journal and conference papers
- 40+ Top-level Journal articles
- 4 Book Chapters
- 2 Dutch patents granted, 2 Chinese patents granted

ANCILLARY ACTIVITIES AND HONORS

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Editorial services

- Associate editor of IEEE TIE, JESTPE

Organisation

- Technical Program Chair, IEEE PEDG 2024&2023, IEEE COMPEL 2020, IEEE ISIE 2020;
- Tutorial Chair, IEEE PEDG 2022
- Topic Chair, IEEE-ECCE-USA 2022 and 2019, IEEE-IECON 2022, IEEE-ICDCM 2021, IEEE-PEMC 2018 and 2022
- Industry Session Co-Chair, IPEMC-ECCE-ASIA 2020
- Member of PELS TC8, TC4 and TC10
- Member of IEEE Standard Association on Solid State Transformers and Virtual Synchronous Machine
- IEEE PELS ITRD Committee Member, since 2020;

Honors

- IEEE International Challenge in Design Methods for Power Electronics Excellent Innovation Award, 2nd Place, 2023
- IEEE-TIE's Distinguished Reviewers for year 2020
- Best paper in the session, IEEE IECON 2013

PRESENTATIONS:

- Invited talk on Power quality of EV charging, in IEEE Webinar 2023, DERLab Knowledge Day 2022, Huawei Digital Power Webinar 2022, IEEE PEMC 2022, ElaadNL Webinar 2021
- Tutorial on Power quality of EV charging, in IEEE EPE 2023, IEEE ECCE Asia 2023, IEEE PEDG 2022
- "From Converters to Systems – New Challenges in Power Electronics," on Nanjing University of Aeronautics and Astronautics Chang Kong Forum for International Youth Scientists, Nanjing, 2019
- "Impact of temperature swings on lifetime of power modules", on EMVT, Utrecht, 2018
- "Challenges and Opportunities of Wide Bandgap Devices based Power Electronics," on International Forum Of Huazhong University of Science and Technology For Outstanding Young Talents, Wuhan, 2017
- Often talk in ECCE, APEC, etc.

TEACHING AND SUPERVISION

- Supervise 11 Ph.D. students. Three graduated
- Supervise 20+ master thesis projects.
- Main Courses

  Master course: "Advanced power electronics", since 2018

  Bachelor course: "Introduction to Electrical Power Engineering", since 2017

  Bachelor Lab project: "Booming Bass", 2019-2021

  MOOC "Integrated and Intelligent Energy Systems", 2021