Boud Verbrugge
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MOBI - Electromobility Research Centre
Electrical Engineering and Power Electronics
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Expertise

Boud Verbrugge received his PhD in Engineering Sciences from Vrije Universiteit Brussel (VUB) in October 2023, in which he focused on the intelligent design and control of charging systems in electric bus depots.
He currently works as a business developer for EPOWERS research group within the Electromobility Research Centre (MOBI) in addition to his role as a technical manager of both national and European research projects in the fields of power electronics, electric vehicle powertrains, charging systems, microgrids and their energy management strategies.

Employment

postdoctoral researcher
MOBI - Electromobility Research Centre
Vrije Universiteit Brussel
Brussels, Belgium
1 Jan 2024 → 31 Oct 2027

postdoctoral researcher
Electrical Engineering and Power Electronics
Vrije Universiteit Brussel
Brussels, Belgium
1 Nov 2023 → 31 Oct 2027

Research outputs

An Overview of Reliability and Fault Challenges in Active Balancing Circuits for EV Applications
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Electro-Thermal, EMI and Reliability Assessment of Post-800 V Traction Inverter Topologies
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An Acceleration Approach for Real-Time Losses Calculation Model of Si IGBT and SiC MOSFET Traction Inverter Systems
Abramushkina, E. E., Frikha, M. A., Verbrugge, B., Hegazy, O. & Baghdadi, M. E., 2026, In: IEEE Access . 14, p. 41380-41397 18 p.

A Fault-Tolerant Dual Active Bridge Architecture with Enhanced SoC Balancing Control
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Modeling and Evaluating GaN HEMTs for Efficient Multicell Battery Balancing with Dual-Active Bridge Converters
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Co-Design Optimization and Total Cost of Ownership Analysis of an Electric Bus Depot Microgrid with Photovoltaics and Energy Storage Systems
Verbrugge, B., Geury, T. & Hegazy, O., Dec 2024, In: Energies. 17, 24, 24 p., 6233.

Intelligent data-driven condition monitoring of power electronics systems using smart edge–cloud framework
Bhoi, S. K., Chakraborty, S., Verbrugge, B., Helsen, S., Robyns, S., El Baghdadi, M. & Hegazy, O., Jul 2024, In: Internet of Things; Engineering Cyber Physical Human Systems. 26, 101158, 17 p., 101158.

Development of Smart Charging Scheduling and Power Management Strategy of a PV-ESS based Scalable EV Charging Station
Jaman, S., Verbrugge, B., Zhaksylyk, A., Geury, T., El Baghdadi, M. & Hegazy, O., 13 Dec 2023, In: Transportation Research Procedia. 72, 1, p. 1240-1247 8 p., TRPRO15962.

Reliability Assessment of SiC-Based Depot Charging Infrastructure with Smart and Bidirectional (V2X) Charging Strategies for Electric Buses
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Development of Smart Charging Scheduling and Power Management Strategy of a PV-ESS based Scalable EV Charging Station
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Verbrugge, B., Rauf, A. M., Rasool, H., Abdel-Monem, M., Geury, T., El Baghdadi, M. & Hegazy, O., 9 Jul 2022, In: Energies. 15, 14, p. 1-18 18 p., 5023.

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