

ADVANCEMENTS IN ELECTRIC VEHICLE BATTERY CHARGING INFRASTRUCTURE

ORGANIZED BY

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SPECIAL SESSION OVERVIEW

Electric Vehicles (EVs) play a key role in the worldwide energy transition towards decarbonization. Nowadays, road transport accounts for around one-sixth of the global Greenhouse Gas (GHG) emissions. In the future, if the growth rate of EVs on the road is like the actual one, the goal of CO₂ emissions from cars would be put on a path in line with the Net Zero Emissions by 2050 Scenario. However, innovative, reliable, and efficient solutions to overcome current technology's limitations are necessary to support the ever-increasing penetration of EVs.

Nowadays, the most critical issues with Electric Vehicles are the driving range, the charging time, and infrastructure. This special session aims to bring together researchers, practitioners, and industry experts to discuss on the cutting-edge technologies falling within the fields of innovative charging infrastructure, hardware solutions enabling new charging methodologies, and energy management.

TOPICS OF INTEREST

We invite original contributions addressing, but not limited to, the following topics:

- Static power converters for EVs charging systems.
- Static and dynamic wireless power transfer systems for EVs charging.
- Integration of renewable energy sources to support EV charging infrastructure.
- Power Quality issues in charging infrastructure.
- Bidirectional operation in smart grids: Vehicle-to-Grid (V2G), Vehicle-to-Home (V2H), Grid-to-Vehicle (G2V).
- Advanced methods for forecasting charging energy demand.
- Planning of charging infrastructure and optimal placement of charging stations.

Join us in exploring the future of electric mobility and contributing to advancements that power a sustainable tomorrow!

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