IEEE ITSC 2022 Special Session

Collaborative Control and Management of EV Powertrains based on Intelligent Transport Systems (CCM-EV-ITS)

CALL FOR PAPERS

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Important Date

31 March 2022
Draft paper submission

01 May 2022
Notification of paper acceptance

01 June 2022
Final paper submission

Visit the website for the most up to date information relating to paper submission, tutorials, special sessions, and deadlines.

Scope

Electrification and automation are two major trends in the automotive industry. Electrified Vehicles (EVs) would be a key part of the Intelligent Transport System (ITS) and would be benefitted from the all-encompassing Internet-of-the-Things. Currently, the development and control of EV powertrains are separated from the ultimate ITS due to the lack of theories and technical solutions that connect and incorporate the three functional domains, i.e., powertrain, driving systems, and traffic infrastructures, across different platforms. This special session aims to collect the latest research from automotive engineering, IT, computer science, and transportation engineering that addresses the challenges in terms of 1) multi-objective optimizations considering traffic efficiency, drivability, and energy economy; 2) trustworthy AI-based decision making with multiple sources of traffic/vehicle information; and 3) observing and balancing of long-term goals (e.g., component aging), mid-term goals (e.g., traffic efficiency), and short-term goals (e.g., fuel consumptions) in real-time powertrain control.

The topics in the special session would include but are not limited to

» **Component aging/degradation models based on ITS data**

» **Robust optimization of EVs in ITS environment**

» **Multi-level control of connected EVs**

» **Adaptive equivalent consumption minimization strategy harnessing ITS**

» **Dedicated reinforcement learning algorithms for control of connected EV**

» **New traffic flow models considering EV dynamics**

Submission Guidance

Papers are required to be submitted through https://its.papercept.net/conferences/scripts/start.pl. Select **"Submit a contribution to ITSC 2022"** and submit your paper as a **"Special Session Paper"** with code **"719xv"**.

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