



ICEM2022 – Valencia, Spain, September 5-8, 2022

Special Session on

Advances in Real-Time Simulation for Electric Powertrain Development

Organized and co-chaired by:

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Call for Papers

There is a growing need to replace vehicles using combustion engines with electric vehicles whose powertrains are typically composed of electric motor drives, power electronics, and batteries. Key technology trends aim at increasing the efficiency, reliability, and power density by using multi-phase machines, wide bandgap semiconductors, multi-level converters, test automation and Model-Based Design with real-time simulation.

Real-time simulation is used for the development and testing phases of powertrains. One common application is for testing embedded controllers and electrical equipment against virtual physical systems such as electric motors, batteries, or even full vehicles. This approach is typically referred to as hardware-in-the-loop testing. Furthermore, rapid control prototyping also uses real-time simulation as a platform for processor-intensive algorithms like model predictive control or reinforcement learning.

Topics of interest include, but are not limited to the application of real-time simulation for:

- Electrical Machine Control
- Electric Motor Drive Testing
- Thermal Modeling of Electrical Machines and Drives
- Hybrid and Electric Vehicle Powertrains
- Electric Motor & Power Electronics
- Controls for Hybrid and Electric Powertrains

Submission of papers: deadline follows the deadline for the regular papers.

All the instructions for paper submission are included in the conference website:

<http://www.icem.cc/2022>