Call for Papers

IEEE Transactions on Transportation Electrification (TTE)

Special Issue on Novel Hybrid and Electric Powertrain Architectures

Hybrid and all-electric vehicles have gained significant market share and are expected to see rapid development over the next few years. Traction force in vehicles can be generated by powertrain units in different configurations. In spite of recent advancements, these traction units have not yet reached technical maturity or cost parity with the ICE-based counterparts.

From a vehicle point of view, it is always desired to achieve better fuel economy (in terms of higher km per liter or km per kWh) with the best cost and volume optimization. A novel powertrain architecture is key to achieve this without sacrifice for lifetime, functional safety, and meeting standards and regulations requirements. In addition, recyclability aspects such as second life of the batteries or material recycling for the powertrain unit need careful consideration and innovative solutions.

This special issue aims to provide the updated status in this field and to cover new aspects and new solutions. Topics of interests include (but are not limited to):

- ✓ **Advancements in powertrain architectures**
- ✓ **Power electronic converters such as inverter, onboard charger, and dc/dc converter**
- ✓ **Reliability and lifetime estimation of the powertrain subsystems and components**
- ✓ **Thermal management solutions for the drive unit, onboard power electronics and battery modules**
- ✓ **System level optimization considering performance, cost, efficiency, and reliability**
- ✓ **Battery management system**
- ✓ **Electrical and mechanical sensing technologies**
- ✓ **Safety requirements and protection solutions (such as ASIL categories and functional safety)**
- ✓ **Recycling of powertrain components**

Submission of Manuscripts to the Transactions:

All manuscripts must be submitted through Manuscript Central at http://mc.manuscriptcentral.com/tte-ieee. Submissions must be clearly marked "Special Issue on Novel Hybrid and Electric Powertrain Architectures" on the cover page. When uploading your paper, please also select the "Special Issue on Novel Hybrid and Electric Powertrain Architectures." Refer to the following link for general information about electronic submission through Manuscript Central https://www.ieee-pels.org/publications/ieee-transactions-on-transportation-electrification.

Important Dates:

- **Full Paper Submission Deadline: February 28, 2021**
- Expected Publication Date: **December 2021**

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