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Emerging Technologies in Electric Vehicle Engineering: Battery Chargers, Electric Drives, and Smart Grid Services

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Message from the Guest Editors

The electric vehicle (EV) is recognized to be part of the expected strategic response against the global warming issue. Government, authorities, and automotive players have already started the so-called green shift, in which EVs are one of the most crucial elements. Novel power converter charging topologies dealing with the increasing AC and DC fast charging demand capable of guaranteeing bidirectional power flows are one of the most promising research fields. Unconventional electric drive structures able to provide torque vectoring, size, weight, and efficiency optimization are an already recognized hot topic. Finally, the unexploited capability of EV to actively contribute with ancillary smart grid services into power systems is expected to be a key player in the transition toward a fully/strongly dominated renewable energies scenario.

Electric vehicle engineering represents a broad study field with main topics such as smart battery packs, battery management systems, wide-bandgap power components, cockpit electromagnetic compatibility, storage technology, intelligent control systems, and many others, and all of them are an acknowledged part of the EV research trend today.

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Message from the Editor-in-Chief

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