

**IEEE Industrial Electronics Society & IEEE Industry Applications Society
Joint Special Section on:**

**Power Electronics-Interfaced Smart Energy Storage
for Emerging Electric Mobility**

Modern transportation is on the verge of transition in response to the climate change and resource scarcity, witnessed by the readily proactive deployment of electrical vehicles, vessels and aircrafts, with strong growth foreseeable in the coming decades. This is enabled by the far-going advances in energy storage techniques toward higher volumetric and gravimetric energy densities. A major challenge haunting this trend is the development of electric propulsion system with low cost, light weight and high reliability. This vision motivates the design and control of high-efficiency power electronics due to their enabling role in energy storage integration. The optimized interface between energy storage devices and power electronic components is critical for the system-level performance with respect to the space/weight limitation, efficiency, and reliability. Moreover, the safety and longevity of onboard energy storage system directly determine the performance of electric propulsion system. Hence, high-fidelity diagnostic, management and control of energy storage systems are highly desired, even though this can be extremely challenging. To this end, recent progresses in artificial intelligence, cyber physics and digital twin can bring some new ideas and promising solutions for the future smart management of energy storage system.

We encourage all researchers working in this area to submit papers to this Special Section. Topics of interest include, but are not limited to:

- Compact and reliable power converters
- Multiport modular power conversion and distribution system
- Prognosis of power electronic systems
- Novel electrical propulsion concepts
- Optimized interfacing between power electronics and energy storage devices
- Energy storage system management, diagnostic, and optimal control
- Propulsion system design and management for electric transportation
- Artificial intelligence and digital twin for smart energy storage manufacturing and management
- Vehicle to grid interfacing

Manuscript Preparation and Submission

Check carefully the style of the journal described in the guidelines “Information for Authors” in the IEEE- IES website: <http://www.ieee-ies.org/pubs/jestie>. Please submit your manuscript in electronic form through: <https://mc.manuscriptcentral.com/jestie-ieee/>.

On the submitting page, in pop-up menu of manuscript type, select: “**SS on Power electronics-interfaced smart energy storage for emerging electric mobility**”, then upload all your manuscript files following the instructions.

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Timetable

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