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High Capacity Anode Materials for Lithium-Ion Batteries

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Deadline for manuscript submissions:
closed (15 December 2025)

Message from the Guest Editors

Dear Colleagues,

Although lithium-ion batteries have been employed in electric vehicles, there is a continuous demand to increase the capacity of battery electrode materials, including both the anode and cathode. In this Special Issue, we seek papers on the design, synthesis, characterization, and mechanistic understanding of high-capacity anode materials for lithium-ion batteries.

Topics of interest include, but are not limited to, the following:

- Lithium metal anodes;
- Alloying-type anode materials;
- Conversion reaction-type anode materials;
- Carbon-based anode materials;
- Composite anode materials, such as silicon-graphite composites;
- Advanced and emerging characterizations of high-capacity anode materials;
- Interface between solid electrolyte and anode materials;
- Design of high-capacity anode materials using first-principle computation;
- The modelling, simulation, and optimization of high-capacity anodes;
- The advanced manufacturing of high-capacity anode materials;
- The thermal safety of anode materials.

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Special Issue

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Message from the Editor-in-Chief

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