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Silicon for High-Energy Lithium Ion Batteries

Guest Editor:

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Deadline for manuscript submissions:
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Message from the Guest Editor

Dear Colleagues,

Since its introduction into the market by Sony in 1991, Lithium-ion battery technology has made rapid progress with respect to energy density. Therefore, high capacity materials like Silicon for anodes have received renewed attention during the last years. Moreover, Silicon has recently materialized in commercial Lithium ion battery cells for a boost of energy, though the absolute amount of Silicon is rather low in such cells due to Silicon specific degradation issues. Therefore there is a significant need for an improved understanding of the behavior of Silicon in Lithium ion battery cells and for innovative Silicon materials leading to improved lifetime and high energy density. The Special Issue will summarize the most recent developments and scientific contributions which will cover both, fundamental and applied aspects of Silicon materials in the context of Lithium ion batteries:

- Li batteries
- Silicon alloys
- High capacity anodes
- Electrolyte additives for Si-based anodes
- Binders for Si-based anodes
- Production of Si-based anodes
- Degradation of Silicon based electrodes
- Commercial aspect of Silicon-modified batteries

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Message from the Editor-in-Chief

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