

Symposium 20: Ceramics for Rechargeable Energy Storage

The significant demands of higher safety and reliability together with high energy density for advanced rechargeable battery system have promoted the developments of new materials and technologies. This symposium will focus on the advanced ceramic materials and technologies that could help the community to achieve the next generation energy storage. Materials design, electrodes architecture, and cell chemistry are key factors to extend the life, enhance the safety, and lower the cost of rechargeable batteries, which are the most efficient energy storage systems for IoT sensor devices, portable electronics, renewable energy storage, smart grid, and transportation applications. Especially, all solid-state battery system using ceramic solid electrolyte materials is critical issue for the higher safety batteries. The search for advanced high ionic conducting materials, zero-strain electrode materials, and the implementation of the challenging interface configuration of electrode-electrolyte interface against Li-metal propagation phenomena will be necessary for the next generation all solid-state energy storage system.

<PROPOSED SESSION TOPICS>

- All solid-state lithium ion battery
- Solid electrolyte materials
- High capacity electrode materials
- Advanced energy storage system
- Lithium sulfur battery
- Lithium air battery
- Sodium ion battery

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<INVITED LECTURES>

Tentative invited lecture information is posted in the following URL;

http://www.ceramic.or.jp/pacrim13/list_of_invited_speakers.html#20