

FEMS EUROMAT23

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FEMS EUROMAT is the most important international congress in materials science and technology in Europe. It continues a successful congress series promoting the transfer of knowledge and the exchange of experience between academia and industry. **Extended submission deadline: 15 March 2023**

Area E: Energy and Transportation

E05: Lithium Batteries

Since their commercialization in the last decade of the last century, rechargeable lithium-ion batteries (LIBs) have changed our lives. The availability of portable power sources with the characteristics of LIBs has enabled the widespread diffusion of portable electronic devices and fostered the digital revolution. LIBs have undergone such technological improvements that nowadays, they are at the heart of the new technological revolution related to the electrification of mobility. One of the unique aspects of LIBs is that despite their widespread commercialization, there are still technological problems that need to be addressed at every level of technological development, from the full understanding of scientific aspects to proof-of-concepts of new approaches and/or materials, to the preparation of new cell formats and the development of new production lines. The research regarding LIBs is so articulated that it includes even perspective approaches, with substantial efforts to develop an efficient reuse and recycling strategy of spent devices. This symposium aims to cover transversely all these aspects; the following is a list of specific topics that could be addressed:

- Lithium-ion battery materials, including new smart functionalities
- Advanced modeling of battery materials
- Integration, control, and modeling of battery packs
- Second life and recycling
- Next generations lithium batteries
- Advanced characterization techniques

The symposium is therefore devoted to recent advances in understanding, analyzing, and designing energy storage technologies from materials to full cell formats. The inclusive symposium will accept contributions from theoreticians, material scientists, surface and operando analysis scientists, and engineers with the aim of getting an overall view on the materials, the interfacial processes, and structure-performance relationships to boost future development.

Symposium Organizer



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