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SALA DE GRADOS Facultad de
Ciencias - UNIZAR

• INMA

Impulso

Nanostructure relevance on the performance of electrochemical energy conversion and storage systems



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Decarbonisation of the energy sector is eagerly demanded at the same time that energy consumption increases. To fulfill energy requirements and zero carbon emissions is necessary to store the energy providing from renewable sources to satisfy the imbalances in production and consumption. One of the most used technology is the electrochemical energy storage in batteries. However, despite batteries are inherently simple in concept, the fatigue of the materials during cycling together with difficulties in mastering the interfaces between them has slow the progress. For these reasons, nanoscience is clue in the development of new nanostructured materials providing cavities to afford volume changes, boost charges transfer, and engineering the interfaces providing new possibilities in the design and progress of batteries.

In this talk, the relevance of nanostructured materials and engineering interfaces in the capacity retention and the kinetics of lithium batteries will be discussed in three examples, followed by a short discussion of batteries perspectives beyond lithium-ion technology. Looking at the future, there is the aim to charge of batteries by a renewable source, such as solar energy. This topic will be discussed in the second part of the talk, showing the relevance of interface engineering in systems for the conversion of light energy into chemical (H_2) or for the development of photocapacitors.



Modalidad Combinada presencial/telemática. Asiste presencialmente a la Sala de Grados de la facultad de Ciencias (UNIZAR) o síguela vía plataforma Zoom a través del enlace del código QR (Cód. acceso: 748781)