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Centro Singular de Investigación en Química Biolóxica e Materiais Moleculares

Conferencia:

Magnetic Nanoparticles: Versatility of the core/shell morphology to tune different properties

Elin Lilian Winkler

Reasearcher of Comisión Nacional de Energía Atómica (CNEA) and Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)-Argentina

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Aula de Seminarios do CIQUS

12:15h

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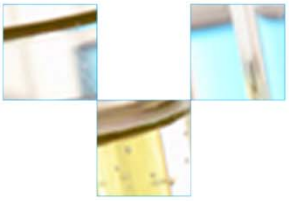

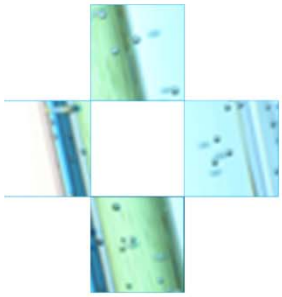

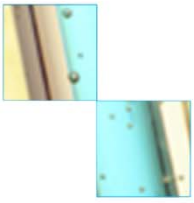

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Magnetic Nanoparticles: Versatility of the core/shell morphology to tune different properties

Nowadays magnetic nanoparticles are widely used in many applications as high density data storage, high performance magnets, or biomedical application as MRI, magnetic hyperthermia. In particular, new synthesis and physical fabrication methods allow to combining in a single nanoparticle two or more components, with controlled size and high quality of interfaces, which open a wide range of new possibilities to develop bifunctional materials. The presence of interfaces in core/shell bimagnetic nanoparticles also introduces additional interactions that could radically modify the static and dynamic magnetic behavior of the systems, and provides supplementary tools to optimize and control their physicochemical properties. In this talk, I will present the strategies followed to design and fabricate different core/shell nanoparticles for tuning its magnetic anisotropy, its relaxation mechanism to optimize the heating efficiency in magnetic hyperthermia experiments or tuning the switching field in tunnel magnetoresistance nanostructures.

Dra. Elin Lilian Winkler

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