



Institut de Nanociència  
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## "Insights into magnetotactic bacteria *Magnetospirillum gryphiswaldense*: a magnetic and structural study"

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**Date: 07/10/2019 at 15h**

**Venue: Room 3.25 (Faculty of Physics)**

Nature is a school for materials science and its associated disciplines, such as chemistry and physics, due to the ability to design crystalline structures whose properties are often superior to those of similar synthetic materials. This is the case of magnetotactic bacteria, a group of microorganisms able to align in and navigate along geomagnetic fields thanks to the presence of one or more chains of magnetic nanoparticles called magnetosomes. The high biological control imposed in the synthesis bestows excellent properties on the magnetosomes, being both, magnetosomes and magnetotactic bacteria, excellent candidates for their use in biomedical applications.

A deep insight into the main properties of magnetosomes and magnetotactic bacteria is essential for their subsequent applications. This work provides detailed experimental and theoretical findings concerning magnetosome chains synthesized by *Magnetospirillum gryphiswaldense* bacteria. This bacterial strain biomineralize cubooctahedral magnetite nanoparticles with a mean diameter of 40 nm.