

## SOLVAY COLLOQUIUM



### **Professor Fiona Meldrum (University of Leeds, UK)**

### **Bespoke Crystals: Bio-Inspired Control over the Structure and Properties of Crystals**

Crystallisation underpins a vast range of processes including the production of nanomaterials and pharmaceuticals, the formation of bones and seashells, environmental issues such as weathering, and unwanted crystallisation such as scale deposition. This talk will describe strategies for controlling crystal nucleation and growth, where particular inspiration is taken from biomineralisation processes. Crystals with complex morphologies can be generated using simple templating approaches, while microfluidic systems provide opportunities to interact with growing crystals and gain superior control. The biogenic demonstration that even single crystal biominerals are composites in which organic macromolecules are associated with the inorganic phase is then used as an inspiration to generate single crystal nanocomposites. Finally, I will address the most challenging topic of all - control over nucleation - and show that surface topography can be highly effective in promoting nucleation.

**Tuesday 11 February 2020 at 4:00 P.M.**

COFFEE AND TEA WILL BE SERVED AT 3:45 P.M. IN FRONT OF THE SOLVAY ROOM

SOLVAY ROOM  
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CAMPUS PLAINE - BOULEVARD DE LA PLAINE  
ACCESS 2 - 1050 BRUSSELS

