



Wednesday, December 2nd 2015 – 15:00
Seminar room I, ground floor, (Blgd. 99)

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Spin Dynamics in Ferroic Materials

In this talk I will discuss how electric fields and laser pulses can be employed to manipulate magnetism in ferromagnetic metals and complex oxide heterostructures.

First, I will present results obtained using soft x-ray photoemission electron microscopy on a Ni / [Pb(Mg^{1/3}Nb^{2/3})O₃]_{0.68} – [PbTiO₃]_{0.32} multiferroic heterostructures that demonstrate how nanopatterning allows to achieve one of the highest magnetoelectric coupling reported thus far.

In the second part of my talk I will introduce a novel experimental approach that allows for real-time recording of the temporal evolution of an ultrafast process using a single, intense x-ray pulse from an X-FEL.

I will then discuss my recent results obtained using this method to investigate ultrafast demagnetisation in cobalt thin films and conclude with an overview of other scientific domains where I expect this development to have an impact in the future.

Host: Andrea Cavalleri

