

AVVISO DI SEMINARIO

Il giorno 15 Febbraio alle ore 15.00 in aula 155/1 avrà luogo il seminario dal titolo:

Advanced electron nanoscopy investigations of nanostructured materials

Maria Chiara Spadaro

Abstract

The development and optimization of growth processes, that allow to control shape and size of the produced nanostructures, is an aspect of major interest in material science and nanotechnology. Nanostructures with desired morphological, structural and chemical features exhibit specific properties that can be exploited in several research fields, such as catalysis, photovoltaics and so on. In order to control, study and understand in detail the behaviour of the produced systems, it is important to perform detailed investigations by means of high-resolution methodologies. Transmission electron microscopy (TEM) is ideal thanks to the possibility to obtain information on nanostructures with high spatial resolution, down to the atomic scale. To unambiguously investigate specific TEM or STEM image characteristic features, 3D atomic modelling and EM image simulation are required. Moreover, structural information can be combined with physico-chemical analysis via electron energy loss spectroscopy in STEM mode (EELS-STEM) to comprehensively understand the nanostructured material under investigation.