



Appunti di Fisica '16 & Dottorato di Ricerca in Fisica

**3 febbraio ore 15:00
Sala seminari, CNR-IPCF**

From functionalized nanoparticles to multi-target drugs

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Nanotechnology is a multidisciplinary and integrative research field that involves the design, production, characterization of materials on atomic, molecular, and supramolecular scale providing novel technological advances also in the field of medicine (Nanomedicine). Indeed, polymeric nanoparticles have been extensively investigated because of their chemical versatility, stealth properties, etc. as a versatile tool for a wide range of biomedical applications as well as for improved delivery of bioactive molecules. Recently, a number of nanoparticles-based products for diagnostics and therapeutics have been approved for clinical applications, and even more are currently under clinical trials. Moreover, the efficiency of nanomaterials can be improved by surface functionalization with, for example, a tissue-targeting ligand, a cell-penetrating molecule, or a signaling peptide for organelle targeting.

In this context, our presentation will focus on the design, synthesis and biological characterization of drug delivery systems for topical and systemic drug release. Here we discuss of three different applications in ocular, dental, and gastro-intestinal developed in our laboratory.

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