



## Nanostructures in Biology: Challenges and Perspectives

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### Message from the Guest Editor

Nanotechnology is now a thriving field with increasing interconnections with biological systems. For example, doxorubicin-loaded mesoporous silica can selectively release drugs at biological pH (Minati et al., Microporous and Mesoporous Materials 2013), gold nanoparticles has been used as Raman probes for imaging brain tumours both in vitro and in living mice (Kircher et al., Nature Medicine 2012), dye-doped silica can be used as new label systems for DNA microarray technology (Ricco et al., Biosensors and Bioelectronics 2011), and now ultraporous Metal-Organic Frameworks can be grown around biomacromolecules (Liang et al., Nature Communications, 2015) with enormous implications for drug delivery and sensing (Horcajada et al., Nature Materials, 2010).

This is a very exciting time at the interface between the living matter and the material world, and we encourage scientists of diverse backgrounds (material science, inorganic chemistry, biochemistry, biology) to contribute with original researches, or with review articles, devoted to synthesis, interaction, and novel applications of nanostructures for biological systems.

Dr. Raffaele Riccò

*Guest Editor*



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