

“From macro to nano drug delivery tools for therapeutic and diagnostic applications”

Research efforts in the design of innovative drug delivery devices based macro-, micro- and nano-manufacturing has burgeoned during the last decades, providing exiting results in both preclinical and clinical settings. This seminar will provide three emblematic examples of recently developed concepts and tools that could have important applications in both therapeutic and diagnostic field: *i)* the design of a microneedles-based medical *functional tattoo* for the non-invasive and real-time monitoring of diseases; *ii)* the design of a nanoparticles-based treatment for brain tumors; *iii)* the investigation of the potentials of 3D-printing technologies for the manufacturing of personalized drug delivery devices.