

# IN<sup>2</sup>UB INTERNATIONAL RESEARCH SEMINARS

## Neuronal-Nanotechnology: an overview of innovative biomedical tools for central nervous system disorders

The emerging interest toward applying nanomaterials for drug and gene delivery, biomedical imaging and diagnostic biosensors within the central nervous system (CNS) prompted neuroscientists to study the interaction of nanostructures with neural systems. This seminar intends to give an overview of the studies we have carried out on the impact of nanotechnology to *in vitro* blood-brain barrier (BBB) models and primary cells, as well as *in vitro* and *in vivo* retina tissue. Mechanistic studies of polymeric nanoparticles (NPs) trafficking through a human BBB *in vitro* model will be also presented. With regard to graphene-based materials for CNS biomedical applications, such as graphene nanosheet, and the possibility of using both 2D and 3D graphene-based supports as biocompatible scaffolds will be extensively discussed. The final aim is to exploit the conductive properties of graphene to modulate and control the activity of neural networks grown in strict contact with such structures. Recently, we also challenged the CNS with other “nanotools” to potentially target specific neural disorders.



The IN<sup>2</sup>UB invites you to the seminar by

**Prof. Mattia Bramini**

*University of Granada (Spain)*

**SAVE THE DATE**

**June 29<sup>th</sup>, 2020 at 12h.**

**Telematic session**



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