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She is currently involved in projects aimed at the study of the interface between neurons and nanoparticles, the potential toxic effects of nanoparticles on the nervous system and the mechanisms underlying chemotherapy-induced neurotoxicity.

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Nanoparticle-neuron interactions: molecular basis of neuronal activity modulation

Engineered nanoparticles have attracted increasing interest in several applications, and particularly in the field of nanomedicine and drug delivery. For their optimal and controlled use, the understanding of the mechanisms elicited by their interaction with the biological target is a prerequisite, especially when dealing with cells particularly vulnerable to environmental stimuli like neurons. The seminar will illustrate novel findings, mainly obtained by electrophysiological and calcium imaging techniques, regarding silica nanoparticle-neuron interactions and their effects on neuronal activity modulation.