

## SEMINARIO PRESENCIAL

Viernes, 14 de abril de 2023

12:30 h. Instituto Cajal (CSIC) Madrid

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# Neural plasticity under stress conditions

## Abstract

Our knowledge about the capacity for plasticity of adult neural circuits is limited. Neural plasticity includes axonal regeneration when a neuron is damaged, but also the reshaping of surrounding intact nervous tissue. Understanding neural plasticity and how to modulate it will be essential to restore the functionality of circuits. However, insight into the cellular and molecular mechanisms regulating this plasticity capacity is very limited and quite fragmentary. We have developed a paradigm to study plasticity of intact neural tissue in the context of non-neural tissue damage. Taking advantage of the fact that organs are innervated by the peripheral nervous system, we use them as a platform in which to induce stress or damage, and in this way expose the intact nervous system that innervates them to different stimuli to analyze the plasticity response. We expect this approach to uncover general principles regulating the plasticity capacity of adult intact neural tissue.

## Affiliation and short bio

Marta Morey is an associate professor at the University of Barcelona. During her PhD she worked on the effects of ROS deregulation on signalling and development. For her postdoc she moved on to study the mechanisms regulating the assembly of neural circuits at UCLA, where she used both genetic and genomic approaches to identify cell type specific genetic programs and cell surface molecules regulating differential wiring specificity. She continued this work as an independent researcher with a Ramon y Cajal position and a tenured professorship. Since then, her laboratory has also worked on neuron-glia interactions and is starting a new line of research on neural plasticity.