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Title: **Prosocial decision making in rodents**

Abstract: Prosocial behaviours are actions that benefit others. They are thought to be evolutionary conserved across different mammal species however, the behavioural and neural mechanisms that explain this type of actions are yet poorly understood. In this talk we will focus on how animals perceive rewarding states from others and incorporate these into social decision-making. Using novel behavioural paradigms that allow for deep analysis of social behaviour, calcium imaging and closed-loop optogenetic experiments, we will explore how social hierarchy and the perception of the well-being of others guide the decision to help or not to help others.

Short bio: Dr. Marquez laboratory works to generate basic science in the field of Social Neuroscience. Her career as Principal Investigator started in Spain (Instituto de Neurociencias de Alicante), after postdoctoral periods at international centers such as the Brain Mind Institute, EPFL (Switzerland) or the Champalimaud foundation (Portugal). She has been recently appointed ERA Chair holder, and moved her laboratory from Spain to Coimbra, in Portugal. These prestigious and highly competitive grants are coordinated by the European Commission and aim to strengthen research capabilities in widening countries in the periphery of Europe. Her main interest is to understand how social cognition is instantiated in brain circuits, with particular interest in the connections between prefrontal cortex and the reward system. To address these questions, her research builds on a strong systems neuroscience perspective complemented with highly quantitative approaches to behavior. Although their questions are posed with a translational perspective, their approach is to first contribute with understanding on how social brains work in health using animal models, so then we can understand what goes wrong in disease. For this, they embrace the complexity of social cognition to identify its neural substrates leveraging from custom designs of innovative behavioural paradigms, that allow for the dissection of relevant behaviours beyond social interaction, the monitoring and perturbation of specific neural circuits, supported by computational analysis.