Social decision-making in rodents

C. Márquez

Instituto de Neurociencias de Alicante (CSIC-UMH), Alicante, Spain.

No man is an island, and all behaviors are modulated by our social experience. How we take decisions in social contexts is a fundamental aspect of our daily lives, however, the underlying mechanisms are only starting to be addressed. We previously showed that rats display prosocial behaviors by providing food to conspecifics in the absence of added self-benefit in foraging contexts. In this talk, we will focus on how rats flexibly adapt their choices to social context, in order to gain mechanistic understanding on how decision-makers learn that their choices have consequences on others. Leveraging on the study of non-canonical body-language, through pose estimation of the interacting individuals, and the study of agent-assigned ultrasonic vocalizations, we propose a model of how decision-makers learn social contingencies of prosociality. Moreover, using fiber photometry in socially behaving animals and wireless real-time closed loop optogenetic manipulations, we provide evidences of the neural circuits underlying the perception of emotional states of others and how animals integrate these behaviors into social decision-making processes.