

Group name: **Synaptic Neuromodulation**

IP name: **Sandra Jurado**

Group web: **www.juradolab.com**

Title of the MRP/TFM:

Oxytocin release as a therapeutic target for social disorders

Summary of the project:

Oxytocin is an endogenous neuropeptide implicated in the regulation of both homeostasis and complex behaviors such as social interaction. Although oxytocin dysfunction is considered a major cause of social disorders like Autism Spectrum Disorder (ASD), the mechanisms governing its release in the Central Nervous System remain unknown.

In this project, **we will investigate the molecular and functional properties involved in oxytocin secretion in the hypothalamus**. Results from these experiments will be the foundation of future strategies aimed to restore oxytocin function to enhance social performance in an animal model of endocrine and social deficits (e.g. Rett's syndrome).

Methods and technology involved in the MRP/TFM Project:

The selected student will learn common techniques in neuroscience research ranging from the preparation of cultured neurons and brain slices, immunohistochemistry procedures and confocal microscopy. There will be also opportunities to learn brain clarification techniques such as iDISCO⁺, electrophysiology and optogenetics.

Member/s of the lab who will act as tutor/co-tutor of the project (if different from the group IP): Dr. Pilar Madrigas and Dr. María Royo.

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