

PhD at the [Neuromodulation of Cortical and Subcortical Circuits](#) research Group, IIT.

Title: **Subcortical Astrocytic Activity in anxiety-related Behaviors**

Tutor: Raffaella Tonini, PhD

Background: Cellular and Circuit Neuroscience

Description

Emerging evidence suggests that brain astrocytes play a role in modulating neuronal circuits and influencing behavior. The project will investigate the role of astrocytes in shaping the interaction between subcortical brain regions involved in the processing of rewarding and aversive stimuli during anxiety-related behavioral responses.

To this purpose, the applicant will apply state-of-the-art techniques for probing and analyzing micro- and macrocircuits of the brain at cellular and system level resolution (ex-vivo and in-vivo optogenetics and electrophysiology, large-scale neuronal imaging, behavioral analysis).

References

Petersen et al., *Trends in Neuroscience*, 2021; Boender et al., *Biol Psychiatry*, 2020

Requirements

We are looking for highly motivated candidates with a degree in Neuroscience, and who are keen to work in an interdisciplinary environment.

Language: Excellent written and verbal English communication skills are expected.

Experience in large-scale population imaging (i.e., fiber photometry), intersectional viral strategies, animal handling and training, behavioral analysis, and programming in MATLAB and/or Python is expected. Knowledge of ex-vivo imaging approaches is considered a plus.

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