



## Thesis Project Form

**Title (tentative):** Exploring the role of visual system on motor performance in Multiple Sclerosis

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### Description

#### Motivation and application domain

Researchers have increasingly turned their attention to the role of sensory processing in Multiple sclerosis (MS) related motor deficits. The Sensory Organization Test (SOT) is widely used in clinics to measure an individual's ability to maintain postural stability under various sensory conditions. Preliminary findings revealed a correlation between motor performance and the visual component index of SOT, indicating a potential link between sensory processing and motor dysfunction in MS.

#### General objectives and main activities

To investigate the intricate relationship between visual perception and motor function, leveraging cutting-edge eye tracking technology. This innovative approach allows for the precise measurement and analysis of eye movements during dynamic conditions, such as walking. By tracking gaze patterns and fixations, it could be possible to gain valuable insights into how individuals with MS use visual information to navigate and perform motor tasks in real-world scenarios.

#### Training Objectives (technical/analytical tools, experimental methodologies)

The student will learn to employ an array of methodologies and instrumentation, including:

• Eye tracking

• Psychophysics methodologies

• Task design and data collection with subjects

**Place(s) where the thesis work will be carried out:** DIBRIS - FISM

### Additional information

**Maximum number of students:** 1