

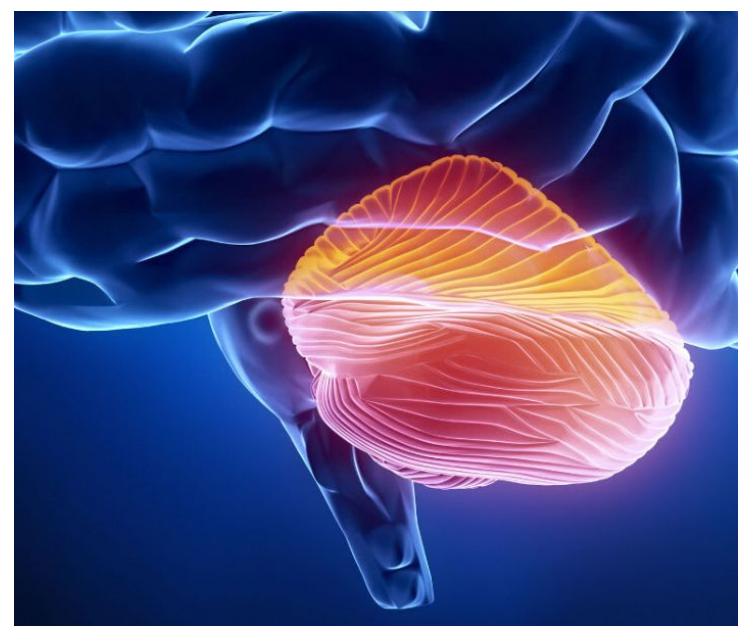
# A Spiking Neuron model to study how the cerebellum learns to manage time

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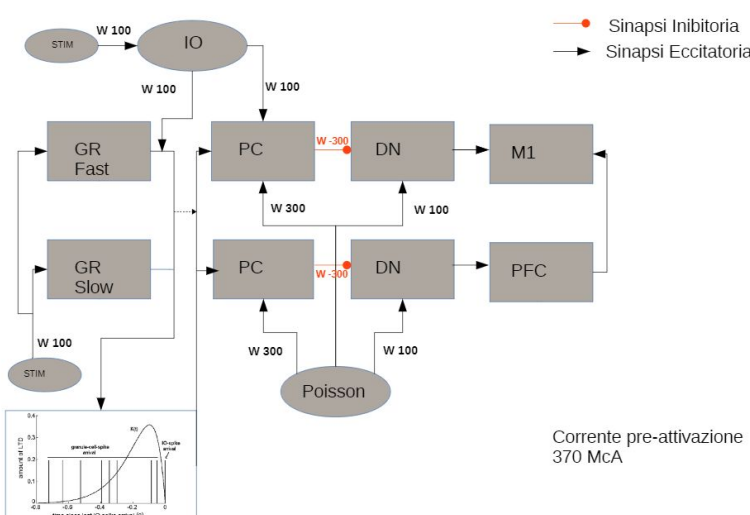
## Topic

- Traditionally, the cerebellum is involved in the control of movements:
  - Equilibrium
  - posturemotor learning
- From a more recent literature the cerebellum is also involved in some functions:
  - cognitive (attention, memorization and language)
  - regulation of affective responses (Wolf et. All 2009)



## Problem

- The implication of the cerebellum in the higher cognitive functions makes us reflect on its role in the management of time, in the communication between the different cortical areas of the brain that work with different times.
- The literature suggests that granular cells are inherently involved in the management of loops with the cortex. But how does the cerebellum learn to manage time to deal with different delays in different areas of the brain?



## Objectives

- Realize, with Nest Simulator and Python, a system that forms slow and fast loops with bark.
- Use of the EBCC Eyeblink Conditioning experimental paradigm to test the model.

