

CMM PDE Seminar

Speaker: Nicolas Torres (Université Claude Bernard Lyon 1)

Title: A multiple time renewal equation for neural assemblies with elapsed time model.

Abstract: We introduce and study an extension of the classical elapsed time equation in the context of neuron populations that are described by the elapsed time since last discharge. In this extension we incorporate the elapsed since the penultimate discharge and we obtain a more complex system of integro-differential equations. For this new system we prove convergence to stationary state by means of Doeblin's theory in the case of weak non-linearities in an appropriate functional setting, inspired by the case of the classical elapsed time equation. Moreover, we present some numerical simulations to observe how different firing rates can give different types of behaviors and to contrast them with theoretical results of both classical and extended models.

Date: August 23, 2022 at 12 Santiago time

Modalidad: Presencial en sala de seminarios del CMM, piso 7, o bien online via zoom:

<https://uchile.zoom.us/j/97687856555?pwd=MkZYZWpEY0YwUTBHT3ROK29ob1JYdz09>

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