

# MATHEMATICAL MODELING IN BIOLOGY

DELPHINE SALORT

The aim of this course is to present some mathematical deterministic tools and models to study qualitative dynamics of single neuron and interacting neurons in a network. We will first consider some typical ordinary differential equation models for the modelling of single neurons in order to show how very simple mathematical models are able to capture some classical dynamic observed in a neuron. We will then explore the case of interacting neurons which communicate between them via they mean activity, using partial differential equations.

SORBONNE UNIVERSITÉ, PARIS, FRANCE

*Email address:* `dsalort@gmail.com`

*URL:* `http://www.lcqb.upmc.fr/users/salort`