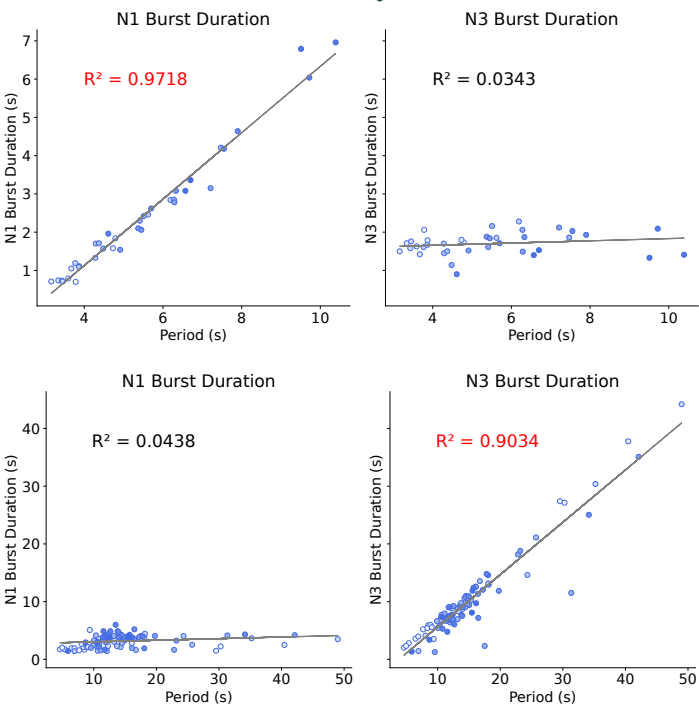# Study of the Sequential nature in neuronal dynamics

Case of study

Feeding CPG
Lymnaea stagnalis

Experimental approach

Computational approach

1.

N1 Burst Duration — R² = 0.9718
N3 Burst Duration — R² = 0.0343
N1 Burst Duration — R² = 0.0438
N3 Burst Duration — R² = 0.9034

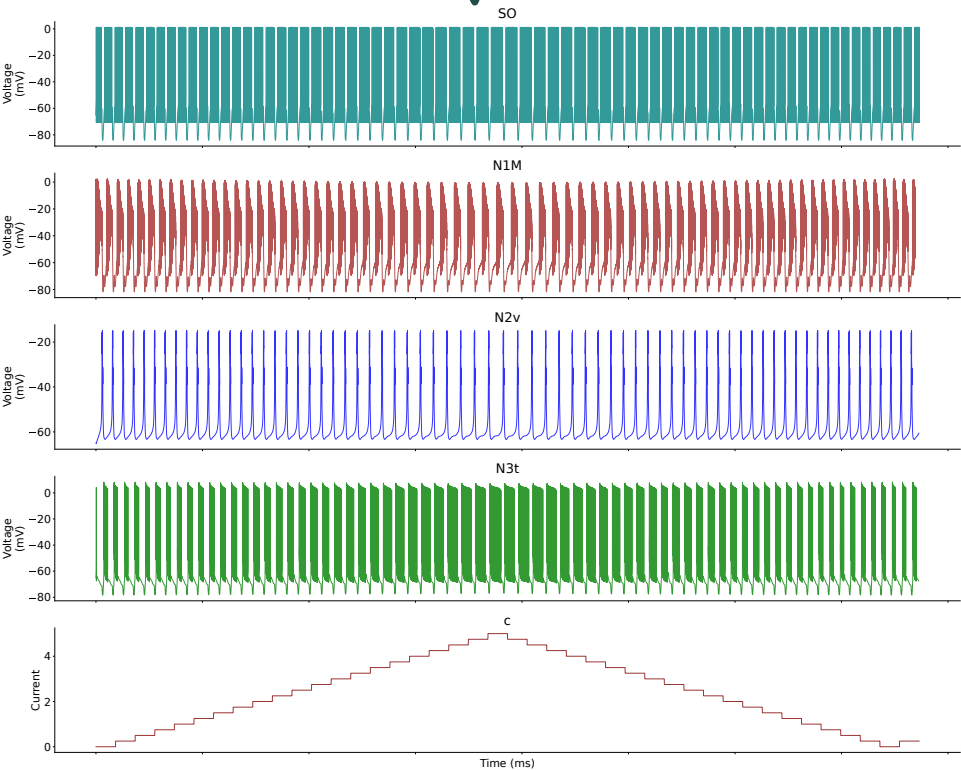**Presence of dynamical invariants under different cases of stimulation**

Universality of sequential dynamical invariants

The variability distribution is dependent on the CPG activity context

2.

SO
N1M
N2v
N3t
c

3.

Transformation of sequential intervals into effective robot movement

4.

Importance of reproducing the functional variability in computational models

Hyperpolarization   Burst duration

Burst waveforms   Hyperpolarization waveforms