

Bonn-Cologne Computational Neuroscience Seminar

Dr. Farzada Farkhooi, HU Berlin:

Correlations and Irregular Spiking in Cortical Network Models

Talk Abstract

This study examines the neuronal spiking correlations in neocortical circuits, which adapt dynamically to produce a range of states, from coherent fluctuations to irregular spiking patterns.

We investigated the theoretical consequences of small-world connectomes on neuronal spiking correlations, demonstrating their innate ability to foster robust correlation in spiking activity. Furthermore, we analyzed the self-regulating properties of correlation levels in the context of synaptic gain control mechanisms.

Our results reveal the intriguing coexistence of irregular spiking and synchronized population events, providing insights into the potential delicate balance of diverse coding mechanisms that underlie cortical information processing.

Wednesday, March 6, 10:30 a.m.

In-Person:

Institute of Genetics,
Prof. Dr. Raoul-Martin Memmesheimer,
Seminar room 1.028 (1st floor),
Kirschallee 1,
53115 Bonn

Host

Prof. Dr. Raoul-Martin Memmesheimer, University of Bonn, Institute of Genetics,
<https://neuralnetworkdynamicscomputation.de/>