Bocconi

13 JANUARY 2026
12:00 PM

Bocconi University
Room COMMON ROOM
Via Röntgen 1, Milano (2° floor)

Emergence of structure and function through synaptic plasticity

Abstract

Synapses and neuronal properties in neural circuits are constantly modified by various plasticity mechanisms operating at different timescales. While extensive experimental studies have characterized these plasticity mechanisms, understanding their functional implications is challenging due to their interplay, and the complexity induced by the diversity of cell types. Combining theoretical analysis and computational modeling, I will discuss how different plasticity mechanisms refine connectivity giving rise to structures such as E-I co-tuning and lateral inhibition. I will show what these different connectivity structures imply in terms of computations, and how they can be further modified by contextual signals.

Speaker

Julijana Gjorgjieva
Professor
Technical University of Munich

Università Bocconi
DEPARTMENT OF COMPUTING SCIENCES