

Remote talk - Computational Principles Underlying the Temporal Organization of Behavior (T: 50mn + Q: 10mn)

jeudi 12 mai 2022 16:30 (1 heure)

Naturalistic animal behavior exhibits a striking amount of variability in the temporal domain along at least three independent axes: hierarchical, contextual, and stochastic. First, a vast hierarchy of timescales links movements into behavioral sequences and long-term activities, from milliseconds to minutes. Second, action timing can be modulated by changes in context, of either internal (neuromodulatory, state-dependent) or external origin. Third, self-initiated actions exhibit large residual variability across repetitions, with signatures of stochastic origin. What computational principles underlie such complex temporal features? We will present the foundation of a theory of temporal variability in behavior and neural activity, based on metastable attractors observed in sensory and motor cortical areas. We will highlight the essential role played by intrinsic noise and heterogeneities in controlling the features of temporal variability.

Orateur: Prof. MAZZUCATO, Luca (University of Oregon)

Classification de Session: Afternoon chair: Organizer