Neurotheory Forum

Dynamically relevant motifs in inhibition-dominated networks

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Many networks in the nervous system possess an abundance of inhibition, which serves to shape and stabilize neural dynamics. The neurons in such networks exhibit intricate patterns of connectivity whose structure controls the allowed patterns of neural activity. In this work, we examine inhibitory threshold-linear networks whose dynamics are constrained by an underlying directed graph. We develop a set of parameter-independent graph rules that enable us to predict features of the dynamics, such as emergent sequences and dynamic attractors, from properties of the graph. These rules provide a direct link between the structure and function of these networks, and may provide new insights into how connectivity shapes dynamics in real neural circuits.

Thursday, November 19, 2020 03:00pm - 04:00pm

Online

This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station. Please find a schedule of the ISTA Shuttle on our webpage: https://ista.ac.at/en/campus/how-to-get-here/ The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.