

Illuminating dendritic function using computational modeling

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Abstract:

In this presentation I will discuss research from our lab whereby computational models -supported by experiments- are used to provide new insights on how dendrites contribute to various brain functions. Specifically, I will present our findings on how dendritic nonlinearities in fast spiking interneurons and their can influence the processing abilities of these cells and the encoding of new memories[1], the role of human dendrites in enabling complex computations such as solving the XOR problem [2] and the contributions of dendrite-targeting interneurons on place cell dynamics in the hippocampus, in health [3] and disease [4].

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