

Introduction to

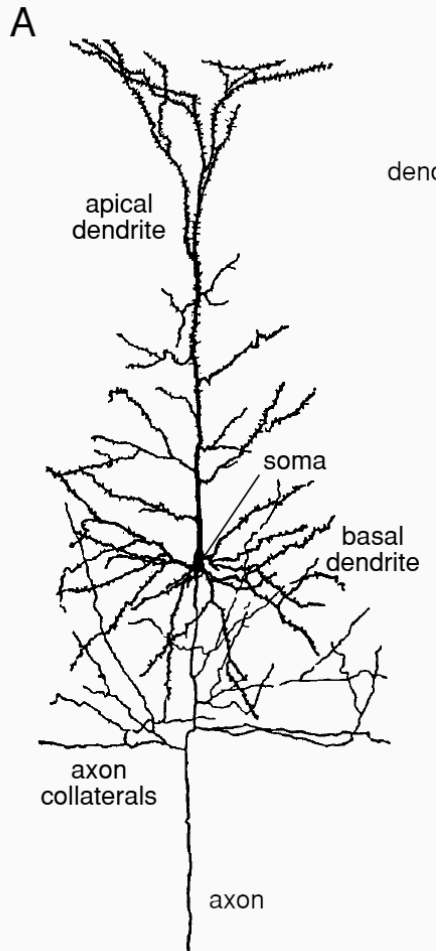
Computational Neuroscience

ESAM 370 Winter 2018

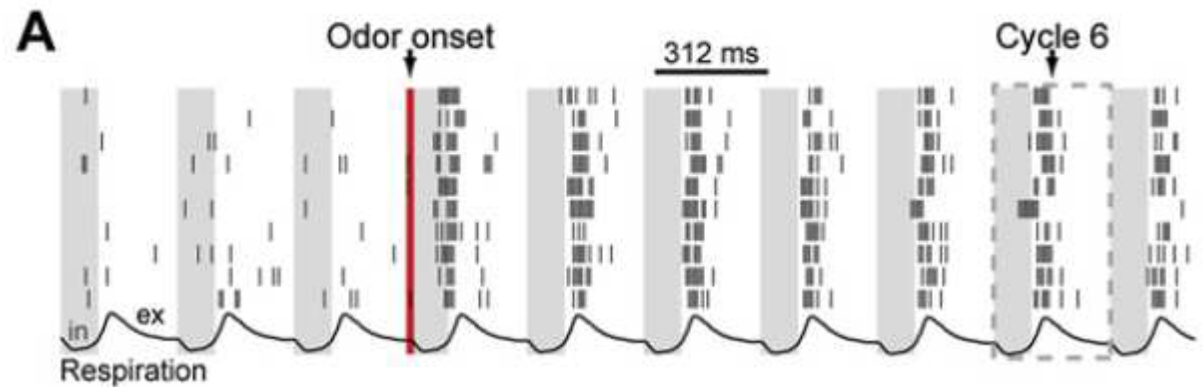
Hermann Rieke

Tu Th 11-12:20

Technological Institute Evanston



This class will introduce a spectrum of methods and concepts of computational neuroscience. It is intended for an interdisciplinary audience, including students in mathematics, engineering, biology, physics. prior knowledge of the biological aspects of neuroscience is not required. A few Matlab tutorials will be given at the beginning of the quarter.



Main topics to be covered include:

Single neurons: Hodgkin-Huxley model, cable equation, synapses, synaptic plasticity, firing-rate models, receptive fields

Neuronal networks: feed-forward, feed-back, contrast enhancement, associative Hopfield network, synchronization

Bayesian description.

For more information:

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