

Title:

The structure of a brain: Percolation in space and oscillations in time

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Abstract:

Hippocampal neurons grown on a dish are simple enough that we can completely unravel their behavior in terms of a statistical physics approach, yet retain sufficient complexity to perform rudimentary computations. We present a unified picture in which individual oscillators link up to form a complex oscillatory neuronal network whose timescales can be understood in terms of ionic leakage currents. Connecting several separate networks that are comprised of different types of neurons such as excitatory, inhibitory, central nervous our peripheral sensory neurons allows for internal communication to develop within the network, and leads to the observation of novel dynamical states.

Date & Location:

Tuesday, January 2, 11:00

Lecture room, Physics Building (ground floor)

