Speaker: Noam Kaplan, UMass Medical

Title: How the 1D genome encodes 3D topological domains

Abstract:

Hi-C is a molecular technique that allows high-throughput genome-wide measurement of pairs of DNA loci that physically interact in vivo. Recently, Hi-C experiments have led to the discovery of novel 3D structures known as Topologically Associating Domains (TADs). TADs have been suggested to form a fundamental higher-order organization of chromatin such that each TAD constitutes an isolated regulatory micro-environment. Thus, it is of major importance to understand what TADs are and how these 3D structures are encoded in the 1D genome. In my talk I will propose a probabilistic systems biology modelling approach that may provide answers to these questions.