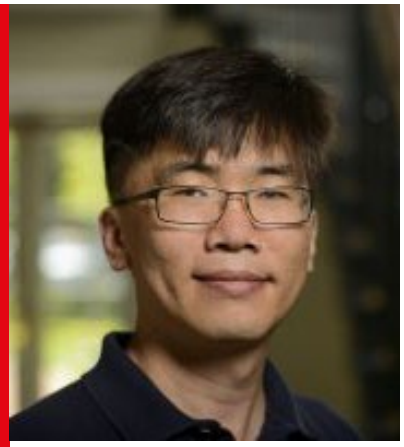
EPFL PHYSICS COLLOQUIUM & BioE Talk

Biophysical Principles of Genome Organization Across Multiple Scales



Prof. Taekjip Ha
Harvard Medical School

Sandwiches provided !

Monday
September 29
12:15
SV 1717

Recent advances in genetics, biochemistry, cell biology, and biophysics have contributed to our understanding that the genome is organized hierarchically, with higher-order macromolecular assemblies spanning spatial and temporal orders of magnitude. Beyond being wrapped around histones as irregular groups of “beads on a string”, chromatin is organized into topologically associated domains, which are composed of small and large loops, and form euchromatic and heterochromatic compartments. In this talk, I will present biophysical principles we are uncovering about genome organization across three different scales, including sequence-dependent DNA mechanics, chromatin loops for homology search, and polyamines' role in translating nucleosome condensability into 3D genome organization.

School of Basic Sciences

Organized by the Institute of Physics

Host: Prof. Sahand Rahi