LAUFER CENTER
FOR PHYSICAL AND QUANTITATIVE BIOLOGY

Seminar

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Interphase Human Chromosome Exhibits Out of Equilibrium Glassy Dynamics

The structural organization of the condensed chromosomes is being revealed using chromosome conformation capture experiments and super-resolution imaging techniques. Fingerprints of their three-dimensional organization on length scale from about hundred kilo base pairs to millions of base pairs have emerged using advances in Hi-C and super-resolution microscopy. I will describe using a minimal Chromosome Copolymer Model (CCM) with two loci types corresponding to euchromatin and heterochromatin that the dynamics is similar to that observed in glasses. Chromosome organization is hierarchical involving the formation of chromosome droplets (CDs) on short genomic scale followed by coalescence of the CDs, reminiscent of Ostwald ripening. Glassy landscapes for the condensed active chromosomes might provide a balance between genomic conformational stability and biological functions.

Friday, March 15, 2019

2:30 PM

Laufer Center Lecture Hall 101

Host: Ken Dill

Refreshments following the lecture
Laufer Hub 110

Stony Brook University

For a disability related accommodation, call 631-632-5400