



A SEMINAR

Imaging and modeling dynamic 3D chromosome architecture

by

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Abstract:

The spatial organization of chromosomes in eukaryotic cell nuclei has important implications for gene expression and genome stability, but has not been charted in detail and its underlying principles remain poorly known. Our lab develops imaging methods and computational models to better understand how chromatin fibers are organized and move in 3D. In this talk, I will review the methods that we developed over the years to map chromosome architecture in yeast and understand its mechanistic basis. In particular, I will show how a simple polymer model can recapitulate a host of experimental observations, and how this model can be used to infer key properties of the chromatin fiber. I will also present collaborative work addressing how chromosome architecture constrains DNA repair by homologous recombination, and how DNA damage increases chromatin mobility. Finally, I will briefly discuss an ongoing project on high-resolution imaging and modeling of human chromosomes.

Date: Monday, 23rd October 2017

Time: 14:00

Venue: Mrs Chen Yang Foo Oi Telemedicine Centre
2nd Floor, William M Mong Block
Li Ka Shing Faculty of Medicine

ALL ARE WELCOME