

Seminar

Mechanisms driving genome structure and regulating biological function

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Quantitative understanding of the genomic structure and its relevance to biological function remains a significant challenge. With advancements in experimental techniques, there is need for an integrative modelling framework that extracts mechanistic insights from experimental data. I will discuss an energy landscape framework for physical modelling of the genome that directly incorporates data to construct ensembles of genomic structures, focusing on the principles governing genome organisation that elucidate the modus operandi of various molecular drivers. The data-driven structures are explicating an intimate regulatory relationship between genome structure and cellular function like chromosome segregation. Notably, the framework will play a crucial role in examining the relevance of three-dimensional genome structure in building a mechanistic understanding of biological phenomena where chromosome structure changes, like in disease progression.

Tuesday, Sep 24th 2024

16:00 Hrs (Tea / Coffee 15:45 Hrs)

Auditorium, TIFR-H