



Seminar Announcement

Near Atomic Resolution Structures of Interdigitated Nucleosome Fibres

Date: 7 February 2020
Time: 4 p.m.
Venue: Classroom 1, SBS

Our comprehension of how nucleosomes are compacted and organized into higher order chromatin structures is relatively poor considering how essential this is for understanding genomic function. The deficit arises from a gap in our abilities to obtain high resolution data on large compacted nucleosomal assemblies, whether in situ or in vitro. In fact, recent investigations of chromatin architecture portray diverse modes of interaction within and between nucleosome chains, but how this is realized at the atomic level is not clear. We developed a method for generating well-ordered crystals of large nucleosomal assemblies, which has apparent open-ended potential to yield a variety of systems and configurations. Ultimately, this has allowed us to obtain near atomic resolution structures of continuous nucleosome fibres, which assume open zigzag conformations that are interdigitated with one another. This suggests that nucleosome chains have a predisposition to interdigitate in various ways under condensing conditions, which rationalizes observations of chromosome architecture and the general heterogeneity of chromatin structure.



Speaker:

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