

Karl Friedrich Bonhoeffer Award Lecture



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Manfred Eigen Hall

MPI for Biophysical Chemistry
(Karl Friedrich Bonhoeffer Institute)

Does cohesin mediate sister chromatid cohesion by a mechanism distinct from loading, translocation, and loop extrusion?

One of the most important concepts in biology is that the properties of individual cells are determined by the chromosomes that they inherit. A key observation leading to this notion was that cell division is preceded by the condensation of its chromosomes from interphase chromatin and their subsequent disjunction to opposite poles of the cell prior to its division, a process known as mitosis. We now know that the hereditary material of chromosomes is DNA and that each chromosome contains a single immensely long molecule that is usually replicated many hours before cells actually enter mitosis. What has remained mysterious until recently is how chromosomal DNAs are packaged into thread-like chromatids and what holds sister chromatids together.

Host: Melina Schuh