



Mendel Centre Seminar



SMC condensin: How to organize bacterial chromosomes for segregation?

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TUESDAY

start 16:00

delivered by

Seminar room 252, building A29
University Campus Bohunice
Kamenice 5, Brno

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Hosted by Assoc. Prof. Mgr. Jan Paleček, Dr. rer. nat.

Abstract:

SMC proteins play key roles in the maintenance, organization and segregation of chromosomes in prokaryotes and eukaryotes. They promote chromosome condensation and resolution in mitosis, sister chromatid cohesion, post-replicative DNA repair and the regulation of gene expression. Our research group investigates the structure and function of the prokaryotic ancestor of all SMC complexes in the Gram+ bacterium *Bacillus subtilis*. We show that the SMC complex switches between two distinct states: an extended rod and a more open ring-like structure. An ATP switch between these states regulates its targeting to the replication origin region on the chromosome, from where it initiates the global folding of the chromosome and promotes separation of sister chromosomes.