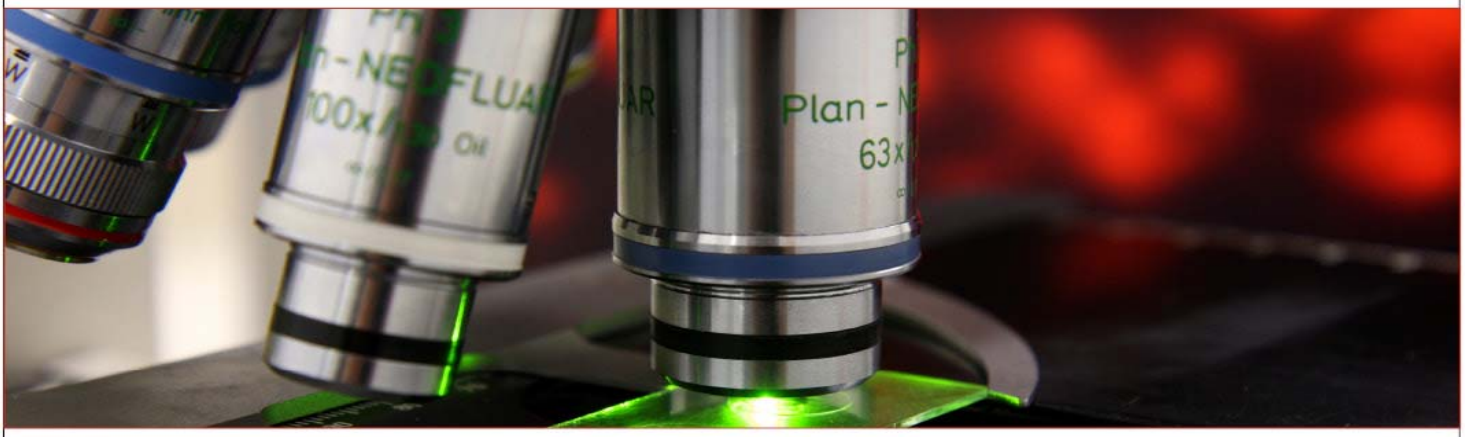
SÉMINAIRES ET CONFÉRENCES



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« The morphogenesis of chromosomes during mitosis – One ring to rule them all? »

The cell cycle is a multistep process essential for cell proliferation in all organisms. The core objective of the cell cycle is to create daughter cells with the same number of chromosome as their mother cell. To accomplish this, chromosomes must undergo a fundamental transformation in their structure during mitosis. The initial stage involves the compaction and reconfiguration of their shape – the process of chromosome condensation. In the second stage, chromosomes arms are disconnected in a synchronous manner to allow sister-chromatid segregation. The primary effector of these structural changes is a family of 6 ATPases known as SMC. They form 3 evolutionarily conserved complexes; cohesin, condensin, and the Smc5-6 complex. They are believed to act as molecular rings that connect different regions of chromosomes by topological entrapment. How this molecular activity translate into effective chromosome condensation and segregation is a major question in the field of cell biology. Whether all SMC complexes act in similar fashion to remodel chromosome structure is another key issue. In this seminar, I will address these fundamental questions by discussing the biochemistry and cell cycle regulation of the condensin and Smc5-6 complexes.

Faculté de médecine
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Le lundi 30 janvier 2017, 12h00

Pavillon Roger-Gaudry
Salle : D-225
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