

BDR SEMINAR (Kobe & online hybrid)

Mechanobiology Seminar Series presents

Jean-Léon Maître

Genetics and Developmental Biology Unit, Mechanics of mammalian development Team, Institut Curie

Friday, June 5, 2026

11:00-12:00

1F Auditorium, DB Building C, Kobe / Broadcast online via Zoom

※This seminar is open only for BDR Members

Mechanics of blastocyst morphogenesis

Summary

During preimplantation development, the mammalian embryo forms the blastocyst consisting of a surface epithelium enveloping a fluid-filled lumen and a cluster of pluripotent stem cells. The architecture of the blastocyst is key to uterine implantation and further development. The shaping of the blastocyst is the result of changes in the physical properties of the cells, which generate the forces sculpting the embryo. In the lab, we use live microscopy to observe shape changes across spatiotemporal scales, biophysical tools to characterize the changes in physical properties of cells and tissues, and genetics to disrupt morphogenesis. This led us to discover the distinct mechanical contributions of the cytoskeleton, plasma membrane, cell-cell adhesion, chromatin and osmotic machinery to preimplantation morphogenesis in both mouse and human embryos.



RIKEN Center for Biosystems Dynamics Research (BDR)

Host: Yu-Chiun Wang

Laboratory for Epithelial Morphogenesis, BDR

Contact: yu-chiun.wang@riken.jp