



Seminar/Talk

Mechanics of blastocyst morphogenesis

Jean-Leon Maitre

Institut Curie Paris

Host: Carl-Philipp Heisenberg

During pre-implantation development, the mammalian embryo forms the blastocyst. The architecture of the blastocyst is essential to the specification of the first mammalian lineages and to the implantation of the embryo. Consisting of an epithelium enveloping a fluid-filled lumen and the inner cell mass, the blastocyst is sculpted by a succession of morphogenetic events. These deformations result from the changes in the forces and mechanical properties of the tissue composing the embryo. Combining microscopy, image analysis, biophysical tools and genetics, we study the mechanical and cellular changes leading to the formation of the blastocyst. In particular, we uncovered how pulsatile contractility compacts the mouse embryo, how asymmetric division of contractile domains couples cell positioning and specification, and how hydraulic fracturing and active coarsening position the lumen of the mouse blastocyst.

Friday, July 30, 2021 11:00am - 12:00pm

Mondi Seminar Room 2, Central Building



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