



Life Sciences Seminar

Mechanics of blastocyst morphogenesis

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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

IST Austria Campus Mondi Seminar Room 2, Central Building



This invitation is valid as a ticket for the IST Shuttle from and to Heiligenstadt Station. Please find a schedule of the IST Shuttle on our webpage: <https://ist.ac.at/en/campus/how-to-get-here/> The IST Shuttle bus is marked IST Shuttle (#142) and has the Institute Logo printed on the side.