



Life Sciences Seminar

Roles of fluid lumina in mouse blastocyst morphogenesis.

Allyson Ryan

EMBL Heidelberg

Host: Carl-Philipp Heisenberg

Pre-implantation mouse development results in the formation of a blastocyst, an embryonic structure containing three spatially-segregated cell lineages and an expanded fluid lumen. While numerous studies have been conducted to resolve how the cell lineages are specified on genetic and signaling levels, studies into the potential of the fluid lumen to impact cell fate specification and spatial positioning have yet to be conducted. Here, we present a novel origin of luminal fluid accumulation that has direct downstream impact cell fate specification. Additionally, we show that transient apical polarization may act as a cue for luminal opening and positioning. Using conditional genetic knockouts and complementary mechanical manipulations, we are able to modulate the volume of the blastocyst lumen and subsequently examine fate specification and polarity. Interestingly, these experiments suggest that the establishment and positioning of primitive endoderm, one of the embryos three cell lineages, is dependent on proper lumen formation and expansion.

Monday, September 10, 2018 11:00am - 12:15pm

Meeting room 2nd floor / Bertalanffy Bldg. (I04.2OG - LAB)



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

Please find a schedule of the ISTA Shuttle on our webpage:

<https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.