Graduate School Event

Adaptive strategies of dendritic cell migration in response to environmental cues

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Host: Beatriz Vicoso

Cell migration is a crucial process in animal development and maintenance. It is incredibly heterogeneous, allowing cells to switch between migration modes depending on the cellular microenvironment. In this talk I will present our work investigating how dendritic cells adapt their migration strategy when encountering geometrically and mechanically distinct environments. When dendritic cells are embedded in a homogeneous fibrous network, they migrate in a fast and directional amoeboid manner. In this migration strategy, extracellular proteolysis and integrin-mediated adhesions and dispensable. Instead, the cells use topography of the environment to propel their cell body forward. To migrate efficiently in the maze of different pore sizes, they position the nucleus ahead of the microtubule organizing center (MTOC) and use it to gauge the pores to identify the path of least resistance. Our aim was to identify whether dendritic cells adapt their migration strategy when encountering asymmetrical transitions into much denser environments with limited choice of large pores. Are they able to cross tight pores without the use of adhesions and extracellular proteolysis and can they maintain the nucleus positioned in the cell front also during such invasive transitions?

Thursday, May 8, 2025 01:00pm - 02:00pm
Central Bldg / O1 / Mondi 2a (I01.O1.008) and Zoom

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.