KEMIJSKI INŠTITUT

Predavanje / Lecture

Membrane tension as a long-range coordinator of signalling

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Velika predavalnica, 1. nadstropje / Great Lecture Hall, 1st floor

To function properly, cells must globally coordinate their behaviors, requiring careful cell-wide regulation of short-range signaling programs. Forces transmitted within the membrane have been proposed to act as this as long-range coordinators of signaling. However, conflicting observations have left the field divided as to whether cell membranes support or resist tension propagation. To address this, I combine optogenetics to manipulate cell mechanics alongside multi-point mechanical measurements and mathematical modeling, providing a unifying model of membrane tension propagation. I further highlight membrane tension's role as a conduit for force-based coordination of the signaling pathways underlying cell polarity and movement.

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Vljudno vabljeni / Kindly invited