

Students' Annual Webinar

Role of Endoplasmic Reticulum structure in guiding the mode of cell migration at different wound geometry

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Epithelial cells exhibit coordinated movement of the cells and use either lamellipodial crawling or contractile purse string in order to seal the gaps and wounds in the tissue and interestingly, geometry of the gap has been shown to regulate these collective mechanisms. However, very little is known about how the cells' response to the geometrical cues is regulated. Using micro patterned wound assays and confocal microscopy we show that Endoplasmic Reticulum alters its structure and dynamics when the cells migrate at different gap geometries. Further, we show that manipulating the ER structure affects the cells' choice for the mode of migration at different curvatures. We aim to determine what guides these changes in ER structure, and how these changes ultimately regulate the two modes of cell migration.

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10:30 AM