

Seminar

Mechanobiology of Collective Cell Migration

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Collective cell migration refers to the process of many cells migrating as a cohesive group, with each individual cell correlating its movement with that of its neighbors. During collective migration, how physical forces exactly contribute to cell-cell interactions and biochemical signaling remains poorly understood. To this end, we are investigating how inter- and intra-cellular forces control different biochemical signaling pathways to support the collective cell migration of epithelial cells. Relevantly, we have discovered a comprehensive molecular mechanism explaining why cell velocities predominantly follow the cell-cell pulling forces. In addition, very recently, we have provided the direct experimental evidence of a cellular level shared decision making process, in which the selection of leader cells at the interface depends on the dynamics and the biophysical state of the follower cells within a collective. Taken together, our research endeavors are revealing various new mechanobiological and therapeutically targetable aspects of wound healing and cancer.

Tuesday, Apr 19th 2016

4:00 PM (Tea/Coffee at 3:45 PM)

Seminar Hall, TCIS