Toward a predictive understanding er call decision from collective effects to single cell decision



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Abstract: While the signals regulating apoptosis during development are rather well known, what sets the precise spatiotemporal distribution of cell death and the adjustment of cell elimination to local perturbations is not well understood. Similarly, how cells eventually engage in apoptosis and how the removal of cells from epithelial layer is orchestrated through cell extrusion remained poorly understood, especially in vivo. In this seminar, I will illustrate the multilayered regulation of cell death through three examples, the first one describing the impact of mechanical stress on cell elimination, the second one on local feedbacks that can fine tune the distribution of cell elimination in space and time, and the last one focusing on the engagement in apoptosis and cell decision taking place downstream of caspase activation. Altogether, I will propose a roadmap to build a more predictive understanding of epithelial cell death in vivo.

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