



Physical Sciences Seminar

Tension-based vertex model of organoids

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We theoretically explore the shape of small closed epithelial shells as models of organoids. Using the 3D vertex model based on the surface energy of individual cells, we compute the shape of shells fully fluidised by active T1 transitions for various apico-basal differential tensions, and we find spherical, ellipsoidal, branched and stomatocytic shapes. By building on the analogy with lipid vesicles, we characterize the shapes by reduced volume and spontaneous curvature and we arrange them in the phase diagram. These results shed light on possible non-specific processes that shape the organoids.

Tuesday, October 23, 2018 10:00am - 11:15am

Mondi Seminar Room 1, Central Building



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