Modelling self-deforming living surfaces

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One fascinating property of active living matter is the ability to self-deform, as observed during the morphogenesis of biological tissue or shape changes of individual cells. In this talk, I will discuss how we use active surfaces models to understand the physical basis of such shape generation. We elucidate the role of anisotropic stresses for fundamental biological processes, such as the division of a cell, and investigate how nematic liquid crystalline order may be employed to guide morphodynamics in synthetic life-like materials.