

Mechanical causation of morphogenesis in living matter

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Abstract

Since the seminal intuition of Alan Turing about its chemical causation, much progress has been made on discovering the biochemical processes directing morphogenesis in living matter. This talk is focused on the mathematical modelling of the mechanical cues regulating the active adaptation of biological matter to its surrounding environment. After establishing the main theoretical frameworks for the mechano-biology of growth and remodelling in soft materials, I will present few practical applications of shape emergence in living systems.