(Keynote) Modeling cell growth

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Abstract

Plant cells are enveloped in a polymeric material, the cell wall. The cell wall material exerts control over the spatio-temporal pattern of cellular growth. How the turgor-driven growth of individual cells leads to the formation of functional tissues is a crucial question in plant development. Various mathematical and mechanical modeling approaches have been used to simulate the process and generate predictions and concepts that can be tested experimentally. I will illustrate how we get from concept to quantitative model to experimental validation.

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