Combining cell- and tissue-level processes in models of plant development

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Abstract

In simulations of plant development, some processes, such as growth, mechanical interactions, or the flow of gasses, can best be handled at a tissue level, treating the plant tissue as a continuum. Other processes, particularly those leading to the patterning of cell fate, are best handled as cell-autonomous functions and interactions between individual cells. I will show examples of patterning and morphogenesis in several plant systems, combining processes at these two scales, and demonstrating how they are integrated and made to interact.

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