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**William R Holmes\*** (wrholmes@uci.edu), 340 Rowland Hall, University of California, Irvine, Irvine, CA 92697, and **Qing Nie**. *Spatio-temporal regulation of developmental processes*.

The central question in developmental biology is how a single cell can produce an organism with exquisitely complex spatial structure, reproducibly and robustly. Through the study of a number of model organisms, such as drosophila and mice, it is evident that biochemical regulation of cellular events such as differentiation is central to this process. The advent of modern experimental techniques has lead to the identification of important regulators of these processes. However, the mechanisms responsible for autonomous spatio-temporal control and the interactions between these regulators that give rise to this control in many cases remain elusive. We will discuss recent advances where mathematical techniques have been used to uncover these interactions and elucidate mechanisms underlying spatio-temporal control. (Received February 11, 2013)