

## Developmental kinematics inferred from fate mapping experiments

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The dynamics of immune cell populations have long been studied using mathematical models. However, parameter identification and model selection have been challenging problems. In this talk I will discuss how novel experimental tools for the fate mapping of T cells and hematopoietic stem cells have yielded quantitative data that, when interrogated by mathematical models, begin to yield rich information on lineage pathway topologies and dynamics. I will discuss insights into (i) the diversification of CD4 and CD8 T cells into memory and effector subsets during adaptive immune responses and (ii) the dynamics of fetal and adult hematopoiesis.