

## ANTICIPATION DECIDES ON LANE FORMATION IN PEDESTRIAN COUNTERFLOW – A SIMULATION STUDY

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**Abstract.** Human crowds base most of their behavioral decisions upon anticipated states of their walking environment. We explore a minimal version of a lattice model to study lanes formation in pedestrian counterflow. Using the concept of horizon depth, our simulation results suggest that the anticipation effect together with the presence of a small background noise play an important role in promoting collective behaviors in a counterflow setup. These ingredients facilitate the formation of seemingly stable lanes and ensure the ergodicity of the system.