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**Sebastien Motsch\*** ([smotsch@cscamm.umd.edu](mailto:smotsch@cscamm.umd.edu)). *Towards 'crowd weather' prediction.*

Optimizing pedestrian flow efficiency and crowd safety is a critical issue in contemporary urban societies. We advocate the need for “Crowd Weather” forecasting systems using similar concepts as those used in weather forecast. Such a system requires carefully validated models on high quality data. In this talk, we use real time tracking experiments based on automatic motion capture techniques to calibrate a macroscopic model for pedestrian dynamics. It relies on a Bi-directional Fundamental Diagram (BFD) which relates the pedestrian fluxes to both the co- and counter-moving pedestrian densities. This Bi-directional Macroscopic (BM) model using the BFD estimated from the data quantitatively reproduces the dynamical clustering patterns observed in the experiments. Finally, we use the BM model to examine the outcome of a corridor segregation strategy and demonstrate the need for a real-time crowd prediction system. (Received August 07, 2013)