

**Title:** Asymptotically de-correlated dynamic spatial random models

**Abstract:** We establish the limit theory for statistics of spatial random models evolving over a time domain and which are asymptotically de-correlated over spatial domains. The three sources of model randomness given by the random collection of particle locations, their random initial states, and the system evolution give rise to point processes with interacting time-evolving marks. When these marked point processes are asymptotically de-correlated with respect to the test class of bounded Lip functions, then one may establish their limit theory as the spatial domain increases up to  $\mathbb{R}^d$ . This gives the limit theory (weak laws of large numbers, variance asymptotics, and asymptotic normality) for continuum versions of spin models, interacting diffusion models, as well as interacting particle systems. The talk is based on joint work with B. Blaszczyzyn and D. Yogeshwaran.