$$S_t \circ c(h)(a_s)_{ti} c(s) + \mathfrak{S}_e m^i n(a_r)$$

Independent particles in a dynamical random environment

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Time and Place: Friday January 30, 2009; 3:00–4:00 p.m.; LCB 219

We study the motion of independent particles in a dynamical random environment on the integer lattice. We will show that the spatially ergodic invariant distributions for the process are mixtures of inhomogeneous Poisson product measures that depend on the past of the environment.

In the second part of the talk, we will consider the fluctuations of the net current seen by an observer traveling at a deterministic speed in the one dimensional case. This is work currently in progress. We will describe some of the motivation behind the problem and also some previous results.

This talk is based on an ongoing project with Prof. Timo Seppalainen.