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*Ergodic theory of Burgers equation with random forcing*

I will talk about the ergodic theory of randomly forced Burgers equation (a basic nonlinear evolution PDE related to fluid dynamics and growth models) in the noncompact setting. In the inviscid case, a variational principle holds, so an essential part of the program is constructing one-sided infinite minimizers of random action and studying their properties. The corresponding results are joint with Eric Cator and Kostya Khanin for Poissonian forcing and due to myself in the kicked forcing case. I will also report on the progress for the viscous case (joint with Liying Li). Here the variational characterization is replaced by the Feynman-Kac formula, so a natural approach is to construct and study infinite-volume polymer measures.