
RALUCA BALAN, University of Ottawa

SPDEs with affine multiplicative fractional noise with index $H > 1/2$

In this talk, we consider the stochastic wave and heat equations with non-vanishing initial conditions, driven by a Gaussian noise which is white in time and behaves in space like a fractional Brownian motion of index H , with $1/4 < H < 1/2$. We assume that the diffusion coefficient is given by an affine function $\sigma(x) = ax + b$, and the initial value functions are bounded and Hölder continuous of order H . We prove the existence and uniqueness of the mild solution for both equations. We show that the solution is $L^2(\Omega)$ -continuous and its p -th moments are uniformly bounded, for any $p \geq 2$. This talk is based on joint work with Maria Jolis and Lluís Quer-Sardanyons.