**"Time Dependent Random Conductance Model and Heat Kernel Estimates"**

Massimo Secci (TU Berlin)

A time dependent RCM is a random walk on $\mathbb{Z}^d$ with time dependent generator

$$\mathscr{L}_{\omega_t} f(x) = \sum_{y \sim x} \omega_t(x,y)(f(y) - f(x)),$$

where the $\omega_t$'s are positive random weights (called conductances) associated to the nearest neighbour edges $(x,y)$. We will present an anchored Nash inequality recently introduced by J. C. Mourrat and F. Otto, which is useful to prove on diagonal upper bounds for the heat kernel $p_{s,t}(x,y)$ when the conductances are bounded from above but not from below. Then, exploiting decreasing properties of some funcionals, we will show Gaussian upper bounds for the heat kernel.