

Probability Seminar

Organizer: Jomy Alappattu & Elchanan Mossel & Sebastien Roch

Wednesday, 3:10–4:00pm, 332 Evans

Dec. 6 **Marek Biskup**, UCLA

Random walk driven by arbitrarily small random conductances

I will consider the random walk on \mathbb{Z}^d driven by a field of random i.i.d. conductances. The law of the conductances is bounded from above; no restriction is posed on the lower tail (at zero) except that the bonds with positive conductances percolate. I will explain how the quenched invariance principle is proved for this random walk despite the fact that the (quenched) heat kernel may exhibit anomalous decay in time. I will also derive universal upper bounds on the heat-kernel decay which, as I will show, can be saturated by appropriately chosen conductance distributions. This is based on joint work with N. Berger, C. Hoffman, G. Kozma and T. Prescott.