

Rosemary Harris (QMUL)

Current fluctuations in particle systems with memory or reset

I will give a gentle introduction to some recent work on current fluctuations in non-equilibrium particle systems. Specifically, in the first part of the talk, I will discuss how long-range memory dependence can modify the large deviation principle describing the probability of rare currents and lead, for example, to superdiffusive behaviour. In the second part of the talk, I will consider dynamics subject to intermittent reset and show how phase transitions in this context can be characterized via a mapping to an old equilibrium model of DNA denaturation.