Minisymposium 7 - Stochastic algorithms and Markov processes

Tight bounds on mixing time of Markov chains

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The mixing time of a Markov chain is the time taken, starting from a fixed initial state, for it to converge to near-stationarity. Convergence is usually measured in terms of total variation distance. Good upper bounds on mixing time are required in the analysis of many randomised algorithms. Tight bounds are hard to come by, though it is well known that coupling arguments can sometimes yield results. This talk will concentrate on lesser known techniques, such as harmonic analysis or logarithmic Sobolev inequalities.