Parallel Markovian Algorithms and their application to combinatorial optimization

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In this talk I will present a class of parallel Markov Chains (Probabilistic Cellular Automata) whose stationary measure (which can be explicitly computed) is related to the Gibbs measure. I will show how these Chains can be exploited to tackle combinatorial optimization problems and how they can be efficiently simulated on massively parallel processors (GPus). I will present some theoretical and numerical results.

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