Exploring Hidden Quantum Markov Models SAMUEL LOOMIS,
Univ of California - Davis — Does quantum information offer advantage in the
prediction and simulation of classical stochastic processes? In this work I explore
many examples of hidden quantum Markov models (HQMM), which are a quantum
generalization of classical Markov chains. In particular, I discuss how a particular
subset of HQMMs can be easily parametrized and generated. By studying their
properties we can observe some non-intuitive features displayed by the improvement
in memory requirements when going from classical to quantum models.

Samuel Loomis
Univ of California - Davis