"Limiting dynamics
of the condensate in the reversible inclusion process on a finite set"

Abstract:

The inclusion process is a stochastic lattice gas where particles perform random walks subjected to mutual attraction, thus providing the natural bosonic counterpart of the well-studied exclusion process. Due to attractive interaction between particles, the inclusion process can exhibit a condensation transition where a finite fraction of all particles concentrates on a single site. In this talk we characterize the dynamics of the condensate for the reversible inclusion process on a finite set S, in the limit of total number of particles going to infinity. By potential theoretic techniques, we determine the time scales associated to the transitions of the condensate from one site to another, and we show that the limiting dynamics of the condensate is a suitable continuous time random walk on S.

Joint work with S. Dommers and C. Giardinà.