Hydrodynamic limit for a facilitated exclusion process

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In this talk we will be interested in a one-dimensional exclusion process subject to strong kinetic constraints, which belongs to the class of cooperative kinetically constrained lattice gases. More precisely, its stochastic short range interaction exhibits a continuous phase transition to an absorbing state at a critical value of the particle density.
We will see that the macroscopic behavior of this microscopic dynamics, under periodic boundary conditions and diffusive time scaling, is ruled by a non-linear PDE belonging to free boundary problems (or Stefan problems). One of the ingredients is to show that the system typically reaches an ergodic component in subdiffusive time.

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