# HYDRODYNAMIC LIMIT FOR DEGENERATE DYNAMICS

MAKIKO SASADA (UNIVERSITY OF TOKYO)

In this talk, we consider two models which belong to the family of one-dimensional nearest neighbor exclusion processes with degenerate jump rates, where one is reversible with respect to product Bernoulli measures while the other's invariant measures are neither reversible nor product.

For the first model, we show that the macroscopic density profile in the hydrodynamic limit is governed by the porous medium equation (PME). The result was already known for initial densities uniformly bounded away from 0 and 1, and we generalize the result for more general case where the initial density can take those extreme values. In this context, the PME solutions display a richer behavior, like moving interfaces, finite speed of propagation and breaking of regularity.

The second model belongs to the class of conserved lattice gases (CLG) which have been introduced in the physics literature as systems with active-absorbing phase transition in the presence of a conserved field. We show that, for initial profiles smooth enough and uniformly larger than the critical density $1/2$, the macroscopic density profile for our dynamics evolves according to a fast diffusion equation (FDE).