

Bachelorthesis Topics Summer 2019

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Consensus convergence

1. J. Garnier, G. Papanicolaou, T.-W. Yang: *Consensus Convergence with Stochastic Effects*
<https://arxiv.org/abs/1508.07313>
(sde, nonlinear pde, opinion dynamic, mean-field interaction)

Numerical schemes as Markov processes

2. P. R. Conrad, M. Girolami, S. Särkkä, A. Stuart, K. Zygalakis: *Probability Measures for Numerical Solutions of Differential Equations*
<https://arxiv.org/abs/1506.04592>
(sde, numerical approximation, uncertainty quantification)
3. François Delarue, Frédéric Lagoutière: *Probabilistic analysis of the upwind scheme for transport*
<https://arxiv.org/abs/0712.3217>
(ode, Markov chain, numerical approximation, upwind scheme, central limit theorem)

Mean-field limits for stochastic particle systems

4. S. Grosskinsky, W. Jatuviriyapornchai: *Derivation of mean-field equations for stochastic particle systems*
<https://arxiv.org/abs/1703.08811>
(Markov chain, interacting particle system, mean-field limit)