

Institute for Applied Mathematics, Bonn University

## Oberseminar Stochastik

Thursday, 13 October 2022, 16:30

Lipschitz-Saal (LWK 1.016)

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Max Planck Leipzig

# Quantitative convergence rate analysis of hypocoercive sampling dynamics

In this talk, we will discuss some results on quantitative analysis of convergence rates of hypocoercive sampling dynamics, including underdamped Langevin dynamics, randomized Hamiltonian Monte Carlo, zigzag process and bouncy particle sampler. The analysis is based on the Armstrong-Mourrat variational framework for hypocoercivity which combines a Poincare-type inequality in time-augmented state space and an  $L^2$  energy estimate. Joint works with Yu Cao (NYU) and Jianfeng Lu (Duke).