ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

Invitation to a Talk

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"Solving Poisson's equation for Wasserstein contractive Markov chains"

N.0.27 | Friday, 26 June 2026 | 9:00 a.m.

Abstract

We study Poisson's equation in the context of general state space Markov chains. For chains satisfying a contraction assumption w.r.t. a Wasserstein distance we show that a solution exists for forcing functions which are Lipschitz. If the solution of Poisson's equation is sufficiently regular, then a martingale decomposition technique can be employed to investigate the convergence of empirical averages corresponding to the Markov chain. Examples from the Markov chain Monte Carlo (MCMC) literature which satisfy the contraction assumption are provided. Additionally, we show statements concerning the almost sure convergence of the corresponding MCMC estimators for numerical integration.

Michaela Hitz and the Department of Statistics look forward to seeing you at the talk!