Invitation to the Doctoral Seminar

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"Optimality of the randomized Milstein algorithm for solving jump-diffusion SDEs"

N.2.35 | Wednesday, 15 March 2023 | 10:00 a.m.

Abstract
We prove the optimality of the randomized Milstein algorithm for solving scalar jump-diffusion stochastic differential equations. For this, we first provide a complete error analysis of the randomized Milstein algorithm for approximating scalar jump-diffusion stochastic differential equations under substantially weaker assumptions than those known in the literature. Then we provide lower bounds for randomized schemes assuming the jump-commutativity condition and conclude optimality. Moreover, we give insight into the multidimensional case and report numerical experiments supporting our theoretical findings.

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