ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

Invitation to the Doctoral Seminar

Amira Meddah, MSc.
JKU Linz

"Numerical Approximations and Convergence Analysis of Piecewise Diffusion Markov Processes, with Application to Glioma Cell Migration"

N.1.43 | Wednesday, 6 December 2023 | 10:30 a.m.

Abstract

We focus on the numerical approximations of Piecewise Diffusion Markov Processes (PDifMPs), particularly when the explicit flow maps are unavailable. Our approach is based on the thinning method for modelling the jump mechanism combined with the Euler-Maruyama scheme to approximate the underlying flow dynamics. For the proposed approximation schemes we study both the strong and weak convergence. Moreover, we employ these results to simulate the migration patterns exhibited by a moving glioma cells.

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