Probability Seminar

Organizer: Christian Gromoll & Tai Melcher

Monday, 2:00–3:00pm, Kerchof 326

Nov 1 **Jose Blanchet**, Columbia
Steady-state simulation of stochastic fluid networks with Lévy input

Reflected stochastic networks arise in the analysis of a large class of queueing systems. The most popular model of this type is perhaps reflected Brownian motion, which arises in the heavy-traffic analysis of generalized Jackson networks. In this talk we discuss Monte Carlo simulation strategies for the steady-state analysis of reflected stochastic networks. In particular, we show how to exactly simulate a reflected stochastic network with compound Poisson input and how to provide samples that are close (with explicit and controlled error bounds) to both the transient and the steady-state distribution of reflected Brownian motion in the positive orthant. (Joint work with Xinyun Chen.)