Graduate

Probability Seminar

On path-dependent stochastic differential equations (SDEs) involving Schwartz distributions

Alan Teixeira
ENSTA Institut Polytechnique de Paris

Date: October, 8, 2021

Time: 14:15 pm

ZOOM link
https://us02web.zoom.us/j/86716263615?pwd=YnI4V3JXTDlXTHZBS1NyRE1GTDZOZz09

Abstract. In this talk, we discuss some one-dimensional path-dependent SDEs, which includes an irregular (Schwartz distribution) drift b' depending on the present position. We treat essentially two cases: the first one concerns the case when the drift b' is the derivative of a continuous function, the second one when b' is the derivative of a logarithmic or an Heaviside function. In the second framework, we characterize Bessel processes in low dimension as unique solutions to some suitable strong martingale problems and we consider path-dependent extensions.