

# Itô's formulas in law for fractional Brownian motion

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## Abstract

It is well-known that fractional Brownian motion (fBm) of Hurst index  $H$  in  $(0, 1)$  is not a semimartingale, except when  $H = 1/2$  (standard Brownian motion case). In this talk, I will explain how recent results on the asymptotic behavior of weighted Hermite variations of fBm, proved by means of Malliavin calculus, allow to get Itô's formulas (in law) for fBm, when its Hurst index is either  $1/4$  or  $1/6$ . It is based on several works, in collaboration with D. Nualart, A. Rveillac, J. Swanson and/or C. A. Tudor.