

David Nualart, University of Kansas

*Approximation Schemes for stochastic differential equations Driven by a Fractional Brownian Motion.*

Abstract: The purpose of this talk is to discuss numerical approximation schemes for stochastic differential equations driven by a fractional Brownian motion with Hurst parameter  $H > 1/2$ . We will present a modified Euler scheme, derive optimal bounds for its rate of convergence and study the asymptotic behavior of the fluctuations of the error. These results are obtained using techniques of Malliavin calculus applied to normal approximations.