

BACKWARD STOCHASTIC VOLTERRA INTEGRAL EQUATIONS IN HILBERT SPACES  
AND APPLICATIONS

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This talk investigates backward stochastic Volterra integral equations for several noise processes in Hilbert spaces. The existence and uniqueness of their adapted solutions is reviewed. We establish the regularity of the adapted solution to such equations by means of Malliavin calculus. For applications, we study optimal control problems for stochastic Volterra integral equations.

References:

- [1] Anh, V. V., Grecksch, W. and Yong, J. (2011). Regularity of Backward Stochastic Volterra Integral Equations in Hilbert Spaces. *Stoch. Anal. Appl.*, **29**, 146–168.
- [2] Grecksch, W. and Anh, V. V. (2012). An Infinite-dimensional Fractional Linear Quadratic Regulator Problem. *Stoch. Anal. Appl.*, **30**, 203–219.