Contribution of Auguste AMAN for ITN Marie Curie School and Workshop " Stochastic Control and Finance"

ITN Marie Curie School " Stochastic Control and Finance"

Title of talking: Stochastic viscosity solution for stochastic PDIEs with nonlinear Neumann boundary condition (jointly work with Yon Ren)

Abstract of talking
This paper is an attempt to extend the notion of viscosity solution to nonlinear stochastic partial differential integral equations with nonlinear Neumann boundary condition. Using the recently developed theory on generalized backward doubly stochastic differential equations driven by a Lévy process, we prove the existence of the stochastic viscosity solution, and further extend the nonlinear Feynman-Kac formula.

ITN Marie Curie Workshop " Stochastic Control and Finance"

Title of talking: A note on homeomorphism for backward doubly SDEs and Applications (jointly work with Modeste N'zi and Jean Marc Owo)

Abstract of talking
In this note, we study the class of backward doubly stochastic differential equations (BDSDEs). In our framework, the terminal values depend on a real parameter. Under suitable assumptions and by the help of strict comparison theorem, we show homeomorphism properties for the solution. This result is used to study homeomorphism property for quasi-linear stochastic partial differential equations.