Numerical solution of the master equation arising in large population stochastic control

Jean-François Chassagneux[*1]

[1]Laboratoire de Probabilités et Modèles Aléatoires (LPMA) – Université Paris VII - Paris Diderot – France

Abstract

In this talk, I will first motivate and describe the master equation introduced in large population stochastic control, which is a PDE written on the Wasserstein space. In particular, I will recall the probabilistic representation of its solution in term of a (fully coupled) FBSDE with McKean-Vlasov interaction. I will then introduce a scheme for this class of BSDEs and demonstrate its convergence both theoretically and practically. This is a joint work with D. Crisan and F. Delarue.

[*]Speaker