ICODE workshop on numerical solution of HJB equations



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Regression Monte Carlo methods for HJB type equations: which approximation space?

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Abstract: Regression-based methods constitute a standard approach to solve dynamic programming stochastic equations. Their theoretical accuracies can be quantified in terms of local approximation errors, statistical errors and propagation errors. There is an subtle interplay between these three sources of error, which should lead to determine well the approximation space according to the sampling effort. In this talk, I will discuss - the pros/cons of using Discontinuous Galerkin type space and Neural Network approximation spaces; - statistical learning results to adaptively choose the approximation space.

Orateur: GOBET, Emmanuel (CMAP, École polytechnique, IPP)