Optimization problems under uncertainty

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The study of models with uncertainty plays an important role in scientific numerical simulations. This class of problems is often utilized in applications coming from engineering, biology, and finance. In this talk, we discuss the importance of including uncertainty in optimal control. We will see that randomness can be utilized to model applications, where the data of the problem – such as the dynamic, the coefficients, or the time delay – are not known a priori and one knows only statistical information. We will discuss some theoretical results and research questions.

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