

# FIM

# Minicourse

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## Mean field games systems

25 October - 01 November 2016

Tue	25 October	10:15 - 12:00
Tue	01 November	10:15 - 12:00

HG G 19.2, ETH Zürich, Rämistrasse 101

### Abstract

Mean field games theory has been developed since 2006 by J.-M. Lasry and P.-L. Lions as a model to describe Nash equilibria in the dynamic optimization of a large population of similar agents, where the individual strategy depends on the collective behavior through the distribution law of the states. This model leads to systems of PDEs where a backward Hamilton-Jacobi-Bellman equation is coupled with a forward Kolmogorov equation.

In this course, after a brief description of the model we will present the main features of those PDE systems, discussing the existence, uniqueness and stability of solutions as well as further questions possibly related to optimal transport and control theory.

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