Introduction to Mean-Field Games

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Timetable: 20 hrs. 8hrs for preliminary lectures, starting on May 7, 2013, 11:30; 12 hrs for the course, starting on May 21, 2013, 14:00. All lectures will be given in Room 2BC/30, Torre Archimede (dates already fixed, see the calendar).

SSD: MAT/05 Mathematical Analysis

Course contents:

Mean-Field Games is a new and rapidly growing area of research where the interactions of large numbers of rational agents are modeled using ideas and tools from non-cooperative dynamic game theory, stochastic control, nonlinear partial differential equations, and mean-field theories in physics. They have applications to economics, finance, models of social behavior, communication networks etc. The course will focus on the approach initiated by J.-M. Lasry and P.-L. Lions, largely based on methods form the theory of elliptic and parabolic PDEs.