Mathematics, Statistics, and Computer Science   **@ UIC**

Departmental Colloquium

Existence of a solution to an equation arising from Mean Field Games

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Abstract: We construct a small time strong solution to a nonlocal Hamilton-Jacobi equation introduced by Lions, the so-called master equation, originating from the theory of Mean Field Games. We discover a link between metric viscosity solutions to local Hamilton-Jacobi equations studied independently by Ambrosio-Feng and G-Swiech, and the master equation. As a consequence we recover the existence of solutions to the First Order Mean Field Games equations, first proved by Lions. We make a more rigorous connection between the master equation and the Mean Field Games equations. (This talk is based on a joint work with A. Swiech).

Friday, November 7 at 3:00 PM in SEO 636