

Séminaires EDP de l'ERC ReaDi

Equations de réaction-diffusion, propagation et modélisation
Henri Berestycki

Les membres du projet ERC ReaDi sont heureux d'annoncer le lancement de la deuxième saison du cycle de séminaires autour des Equations aux Dérivées Partielles qui se tiendront à l'Ecole des Hautes Etudes en Sciences Sociales à commencer du 26 Janvier. Retrouvez toutes les informations sur le séminaire : <http://readi-project.weebly.com/pde-seminar.html> (Attention : certaines dates ont été modifiées).

Quatrième séance : **Mercredi 9 Mars à 16h00**
Salle 466, EHESS, 190-198 avenue de France, 75013 - Paris

Pierre Cardaliaguet, *Ceremade Université Paris-Dauphine*

Titre: **The convergence problem in mean field games**

Résumé : We will discuss the convergence, as N tends to infinity, of a system of N coupled Hamilton-Jacobi equations, the Nash system. This system arises in differential game theory. We describe the limit problem in terms of the so-called "master equation", a kind of second order partial differential equation stated on the space of probability measures. Our first main result is the well-posedness of the master equation. To do so, we first show the existence and uniqueness of a solution to the "mean field game system with common noise", which consists in a coupled system made of a backward stochastic Hamilton-Jacobi equation and a forward stochastic Kolmogorov equation and which plays the role of characteristics for the master equation. Our second main result is the convergence, in average, of the solution of the Nash system and a propagation of chaos property for the associated "optimal trajectories". This is a joint work with F. Delarue, J.-M. Lasry and P.-L. Lions.

Organisateurs : Andrea Tellini et Alessandro Zilio



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