ID de Contribution: **2** Type: **Non spécifié**

Proving Propagation of Chaos and Mean-field Limits

mercredi 17 janvier 2024 15:00 (1 heure)

Consider a system of N particles, described via a system of Stochastic Differential Equations (SDEs), interacting in a mean field way. We are interested in the limit, as N goes to infinity, of this particle system, and try to derive from a microscopic point of view (i.e. particle dynamics) a mesoscopic point of view (i.e. a statistical description of the system). The notion of propagation of chaos refers to the phenomenon according to which, as the number of particles N grows, two given particles become « more and more » statistically independent.

The aim of this talk is to discuss more or less recent methods to prove this phenomenon for different types of particle systems, notably in singular Riesz-type interaction, with ideas ranging from Probability theory to analysis of Partial Differential Equations (PDEs). We focus in particular on quantitative and uniform in time propagation of chaos.

This talk is based on joint works with A. Guillin (université Clermont-Auvergne) et P. Monmarché (Sorbonne Université).

Orateur: LE BRIS, Pierre (IHES - Université Paris-Saclay)