Matière et Systèmes Complexes, UMR CNRS 7057

Internship / PhD research project

Collective motion of activated thermosensitive colloids in crowded environments

Supervisor : **Bérengère ABOU (CR CNRS)**, Matière et Systèmes Complexes (MSC)
berengere.abou@univ-paris-diderot.fr

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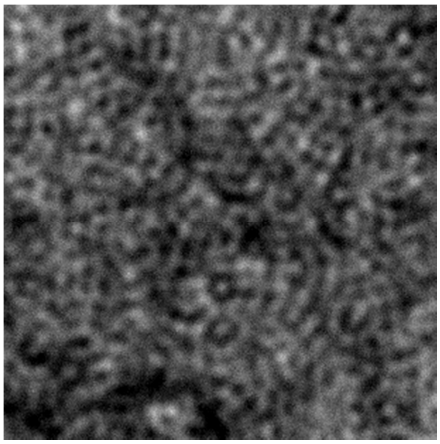
In a crowded environment, the dynamics of colloidal particles is no longer homogeneous and simply diffusive. A dynamical clustering occurs, leading to slow and fast collective motions of the colloids. Understanding the formation of these dynamical heterogeneities (DHs) is a promising lead to follow up to understand slow relaxation in dense materials such as glasses.

Although we still have a poor understanding of DHs in experimental model systems, their investigation is crucial to understand the stability and rheology of colloids present in a number of industries such as pharmaceutical, ceramic, and paints. Our project aims to investigate the road to dynamical clustering with thermally activated colloids. We aim to explore collective rearrangements and the role of colloidal interactions on dynamical clustering.



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