

## A fixed-point approach to Clausius-Mossotti formulas

*Wednesday, November 17, 2021 12:00 PM (30 minutes)*

Homogenisation theory allows to encapsulate the effective behaviour of heterogeneous materials in special averaged quantities called homogenised coefficients. In this talk, I will study the behavior of these coefficients for (random) two phases media in the dilute regime, i.e. when the volume fraction of one of the phases is small. More precisely, I will investigate a dilation model where inclusions are distributed in a constant background along a stationary ergodic point process dilated by a factor  $L$ . I will show that the associated homogenised Coefficient depends analytically on  $L^{-1}$  in the dilute regime  $L \gg 1$ .

The approach, that I will outline, relies on a fixed point formulation for the corrector in term of the so-called single inclusion solution and holds without the need of any quantitative theory.

**Presenter:** PERTINAND, Jules (LJLL / MPI MiS)