Incompressible limit for a two-species tumour growth model

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We present a two-species model with applications in tumour modelling. The main novelty is the coupling of both species through the so-called Brinkman law which is typically used in the context of visco-elastic media, where the velocity field is linked to the total population pressure via an elliptic equation. The same model for only one species has been studied by Perthame and Vauchelet in the past. Here, we shall present a rigorous argument to build a bridge between a density-based model and a geometric model, usually referred to as incompressible limit.

This talk is mostly based on joint works with T. Debiec, B. Perthame, and N. Vauchelet.