

A degenerate cross-diffusion system as the inviscid limit of a nonlocal tissue growth model

(Jun.-Prof. Dr. Markus Schmidtchen, TU Dresden)

In recent years, there has been a spike of interest in multi-phase tissue growth models. Depending on the type of tissue, the velocity is linked to the pressure through Stoke's law, Brinkman's law or Darcy's law. While each of these velocity-pressure relations has been studied in the literature, little emphasis has been placed on the fine relationship between them. In this paper, we want to address this dearth in the literature, providing a rigorous argument that bridges the gap between a viscoelastic tumour model (of Brinkman type) and an inviscid tumour model (of Darcy type).