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**Lattice Gas Cellular Automata modeling of lineage dynamics and feedback control**

This study is important in understanding the mechanism and dynamics of some biological problems such as tumor invasion and wound healing. Firstly, we describe microscopically the model and we derive the corresponding mesoscopic approximation, via the mean field assumption. In the following, we upscale our model providing a PDE which serves as a macroscopic manifestation of the underlying cellular interactions. We focus on investigating the speed and the structure of the invasion front, using the above mentioned approximations, as functions of the underlying cell phenotypes and microenvironmental factors (i.e. nutrients).

REFERENCES

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