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Travelling Wave Solutions in a Novel Glioma Invasion Model.

In a recent paper, Osswald and collaborators presented a detailed study of in-vivo glioma invasion patterns in the healthy brain tissue of living mice. This paper showed that specialized cancer cells build a network much like a healthy brain neuronal network. Working jointly with Thomas Hillen, Kevin Painter, and Nadia Loy, we aim to incorporate this discovery of network formation into previous Glioma blastoma models. Our model is based on the kinetic model framework, where we can quickly introduce new reaction dynamics for the network formation. We can arrive at coupled non-cooperative reaction-diffusion equations by making quasi-equilibrium assumptions and taking the diffusion limit. From this system, we will show the existence of Traveling waves with a minimal spreading speed.