1163-92-170 **Rasa Giniunaite*** (rasa.giniunaite@maths.ox.ac.uk), Oxford, OX1 3DW, United Kingdom, and **Ruth E Baker** (ruth.baker@maths.ox.ac.uk) and **Philip K Maini** (philip.maini@maths.ox.ac.uk). *Comparing Xenopus and chick neural crest cell migration.*

There is an ongoing debate between experimentalists working on Xenopus and chick neural crest (NC) cells about the key mechanisms that drive invasion. In particular, cell-cell repulsion and attraction are thought to be the key driving factors for cranial NC cells in Xenopus but these interactions appear not to be observed in chick cranial NC cells, which are demonstrated to be guided by a cell-induced chemoattractant gradient. There are some physical differences between Xenopus and chick cranial NC cells, for example, Xenopus NC cells are much larger than chick NC cells, and the migratory domain is much longer in chick than Xenopus. However, it is an open question as to whether these physical differences are the reason why different biological mechanisms are required to ensure successful invasion in these organisms.

To address this question, we use a single individual-based stochastic model to replicate the results of a successful invasion in Xenopus and chick. We perform parameter sensitivity analysis to explore under what parameter regimes invasion is most robust. We will compare the results for Xenopus and chick and suggest reasons for the observed differences and similarities. (Received August 25, 2020)