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## **Models of neural crest cell migration during development**

Elucidating the mechanisms underlying the cell movement and rearrangement that turn a clump of cells into a functioning organism requires close collaborations between experimentalists and mathematical modellers. One such important phenomenon is that of neural crest cell migration during embryogenesis. A two-dimensional individual-based model for the migration of cranial neural crest cells in the developing chick embryo has been formulated. The model consists of multiple agent types and predicts the responses of cells to an underlying chemoattractant which is used up by the cells. The model is used to make predictions which are then tested experimentally. This talk will outline the stages of the modelling process, demonstrating how repeated cycles of model construction, experimental validation and testing are vital for furthering our understanding in the area.