

Cellular automaton models for collective cell behaviour

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Session: 21. Mathematical models for biological invasion

Cellular automata are introduced as models for collective behaviour in interacting cell populations. We focus on mechanisms of collective cell migration, clustering and invasion and demonstrate how analysis of the models allows for prediction of emerging properties at the individual cell and the cell population level. Finally, we discuss applications of the invasion models to glioma tumours.

References

- [1] A. Deutsch, S. Dormann, *Cellular Automaton Modeling of Biological Pattern Formation: Characterization, Applications, and Analysis*, Birkhäuser, Boston, 2005 (2nd ed. 2014).