

**Agent Based Model for Simulating the Competition
among Companies in a Heterogeneous Regional Landscape
with Economic, Social and Political Constraints**

A microscopic approach to macroeconomic (globalization) features is intended.

Business enterprises are located on sites of a square lattice, such that "*Terra est omnis divisa in partes tres*". The "agents" are characterized by an intrinsic fitness value which can evolve with time and space due to competition with neighbors and under the influence of their heterogeneous regional and time dependent environment, like a selection pressure. The control parameter is a (scalar) "business plan". Each business plan allows for relocation, spin-offs and/or merging. Time delay in implementing a strategic decision is studied in a simplified model. The model is reminiscent of a reactive magnetic lattice gas in physics. This reaction–diffusion model can be mapped onto a high-order logistic map. Such enterprise survival evolution laws induce bifurcations, cycles and chaotic behaviors, and much pessimism on controlled economic developments.