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A fully flexible, agent-based model for epidemic spreading in wild animals

We present a general model to simulate epidemics spreading. The model is based on cellular automata and has several features. On one hand the *population* is age-structured, and births, deaths, immigration, emigration, movement (both spontaneous and organized) are all taken into account. The *disease* is spread both spontaneously and by local contacts; the control of the disease by vaccination is considered and the possibility of periodic hunting in the case of wild animal populations is also studied. The *environment* is inhomogeneous, and the presence of obstacles is also simulated. As an application we report some results on the spreading and the control of swine fever in wild boar populations, an important issue because such disease is easily transmitted to pig-breeding.

This is a joint work with **A. Corli** and **E. Ganzaroli** from the Department of Mathematics, University of Ferrara (Italy), with **V. Guberti** from FAO (Rome, Italy) and with **M. Fenati** from the INFS (Bologna, Italy).