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# Generic dynamics of coupled cell networks

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## Abstract

The generic properties of the qualitative dynamics generated by an ODE  $\dot{X}(t) = F(X(t))$  are now well understood. For example, for almost all non-linearity  $F$ , the periodic orbits of the ODE are hyperbolic. This hyperbolicity ensures the stability of the periodic orbits with respect to small perturbations of the parameters (e.g. perturbations of  $F$ , numerical simulation...) and also enables an accurate description of the dynamics as well as the use of tools as Takens' observation theorem.

Coupled cell networks form a subclass of ODEs and the description of their generic dynamics is still very relevant. However, since this subclass has an empty interior, one cannot directly use the generic results concerning general ODEs. In fact, some generic results may even fail if too many symmetries are imposed to the network.

The purpose of this talk is to discuss these questions and to present some recent results.

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