Delayed feedback control of networks

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Noninvasive time-delayed feedback control of Pyragas type aims at the stabilization of unstable periodic orbits and steady states, using differences of current and delayed states as a feedback signal. Given the extremely large number of dynamical systems it can be applied to, Pyragas control has been a very active topic of reasearch in the last 25 years, both for theorists and experimentalists.

However, Pyragas control suffers from several restrictions which make it hard or even impossible to apply it to networks of coupled oscillators, particulary if non-synchronized periodic orbits should be stabilized.

In this talk, I will present a new modification of Pyragas control, which enables its success also in the context of networks of coupled oscillators.