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McCORMICK SCHOOL OF
ENGINEERING

Collective Dynamics in Populations of Oscillators

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From synchronizing fireflies to neurons in the brain, interesting dynamics occur in populations of interacting oscillators. A recent breakthrough has enabled the development of a much better understanding of the collective dynamics of such systems. I will review some recent results on globally-coupled systems that yield the complete bifurcation structures of the bimodal Kuramoto system and a network of theta neurons. I will also discuss dynamical complexities that arise when these systems are made non-autonomous, and speculate on the biological implications of this work.

Monday, April 4th, 2016 @ 4:00 PM
Technological Institute M416

For further information see <http://esam.northwestern.edu>

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