

# THE CRM APPLIED MATHEMATICAL AND PHYSICS (CAMP) SEMINARS



CENTRE DE RECERCA MATEMÀTICA

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## Collective synchronization: from fireflies to cells

### Abstract:

Clapping audiences, pedestrians on the London's millennium bridge, and flashing fireflies are spectacular examples of collective synchronization in living systems.

This ubiquitous tendency towards synchrony also occurs at the microscopic level, where thousands of heart pacemaker cells self-organize their rhythmic activities to initiate the heartbeat.

I will review theoretical attempts to describe these phenomena in a common framework, and present recent advances on the mathematical analysis of populations of pulse-coupled oscillators.

**Date:** May 15, 2014

**Place:** Room C1/028

**Time:** 12:00

