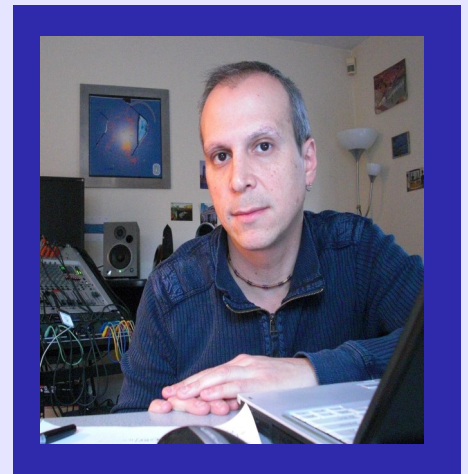


Engineering Sciences and Applied Mathematics**ESAM Seminar Series Presents:****Elasticity-based mechanism for collective motion
in natural and artificial swarms****Presented by:****Cristián Huepe Minoletti****Labo Labs**

Collective motion is one of the simplest forms of self-organization in systems of active components such as cell colonies, bird flocks, fish schools, or groups of autonomous robots. Its emergence in fluid-like swarms with aligning interactions has been the focus of much research activity. In this talk, I will introduce a different model for collective motion, consisting of self-propelled particles connected by linear springs without explicit aligning dynamics. In this system, a simple elasticity-based mechanism drives the particles to self-organize by cascading self-propulsion energy towards lower-energy modes. Given its ubiquity, this mechanism could play a relevant role in various natural and artificial swarms.

Monday, September 29, 4:00 PM
Technological Institute M416For further information see <http://www.esam.northwestern.edu>Engineering Sciences and Applied Mathematics
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