

MEED Seminar

March 1, 2019 – 13:00
Building Stevin, Room b.(-145) - MEED

Gennaro Vitucci

iMMC / MEED

Fluid dynamical interactions in organized bird flock flight



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Collective flight of birds has kept humans puzzled for millennia. Nevertheless the first attempts at studying it in a rigorous framework have been carried out only during recent decades. Among the most asked scientific questions is the aerodynamic advantage of certain observed flock topologies and dynamics for long distance journeys. In order to quantify the inter-individual mechanical interaction we develop a novel computational approach which is inspired to the well established lifting line method used in fixed-wing aircraft studies. Our adaption allows to analyze the unsteady flight of multiple flapping objects. A number of benchmarks are explored, which model common dynamics of biological flyers.

This versatile tool will help running efficient simulations of migratory bird flocking within the UCLouvain-based project *RevealFlight*.



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