

MAR16-2015-000519

Abstract for an Invited Paper  
for the MAR16 Meeting of  
the American Physical Society

**Collective motion in populations of colloidal bots**

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One of the origins of active matter physics was the idea that flocks, herds, swarms and shoals could be quantitatively described as emergent ordered phases in self-driven materials. From a somehow dual perspective, I will show how to engineer active materials out of colloidal flocks. I will show how to motorize colloidal particles capable of sensing the orientation of their neighbors and how to handle them in microfluidic chips. These populations of colloidal bots display a non-equilibrium transition toward collective motion. A special attention will be paid to the robustness of the resulting colloidal flocks with respect to geometrical frustration and to quenched disorder.