Abstract Submitted
for the DFD16 Meeting of
The American Physical Society

Manipulating colloidal assemblies with active dopants SOPHIE RAMANANARIVO, JEREMIE PALACCI, UC San Diego — The dynamics of a densely packed 2D layer of colloids can be significantly altered upon introducing a small amount of active microparticles. Those motile intruders drive the system out-of-equilibrium, which produces a variety of new complex phenomena such as the accentuation of density heterogeneities or the reorganization of crystalline colloidal structures. We investigate the altered dynamics of the passive spheres, as well as the behavior of micro-swimmers propelling in such crowded environment where interactions with passive obstacles or other active units become important. Ultimately, understanding and controlling such mixed systems could open new routes toward activity-assisted manipulation of colloids, potentially guiding the design of materials able to self-anneal their defects.

Sophie Ramananarivo
UC San Diego

Date submitted: 01 Aug 2016 Electronic form version 1.4