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**Deformable Colloids in the Presence of a Liquid Crystal** FRANCES MACKAY, COLIN DENNISTON, University of Western Ontario — Spherical colloidal particles immersed in a liquid crystal experience a non-uniform pressure, as well as directional interactions among one another due to the defects they induce in the surrounding liquid crystal. Here, we use a lattice-Boltzmann algorithm to investigate the behavior of initially circular, 2D deformable colloids placed in a nematic liquid crystal. The colloidal particles, which are represented using a bead-spring model, are of a sufficient physical size to ensure that the anchoring of the liquid crystal molecules on their surface has a significant impact on the background liquid crystal. We present the resulting equilibrium particle shapes for a range of surface elasticities, and investigate the interaction between pairs of particles.

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