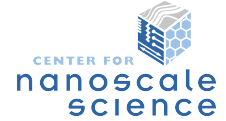
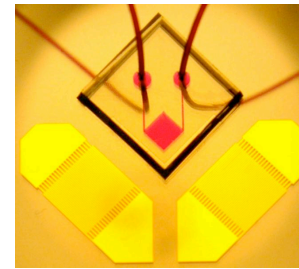
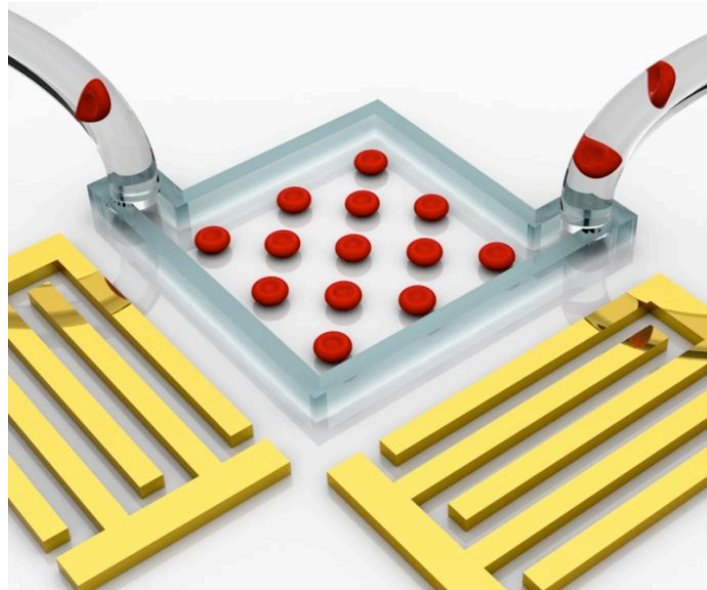


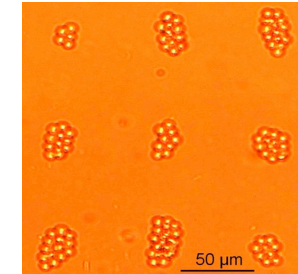
Acoustic tweezers control nanoparticle assembly



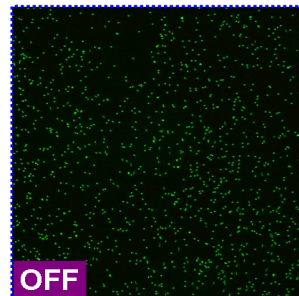
Jinjie Shi, Daniel Ahmed, Sz-Chin Steven Lin, Xiaole Mao, Aitan Lawit, Tony Huang, MRSEC DMR-0820404



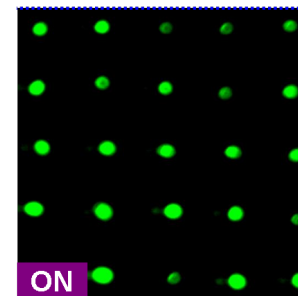
apparatus



patterned cells



OFF



ON

patterned polystyrene beads

Two perpendicular sets of interdigitated electrodes can generate surface acoustic waves which overlap to form patterns of high and low pressure in an ambient fluid. Nanoparticles of any size and shape within this fluid will migrate in response to the higher or low pressure regions of the standing acoustic wave (depending on whether they are more or less compliant than the surrounding fluid). This versatile technique, newly developed by MRSEC researchers, provides a means to control the motions of a wide range of nano and micro sized objects, including both self-motile nanomotors, biological cells, and passive nanoparticles.

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