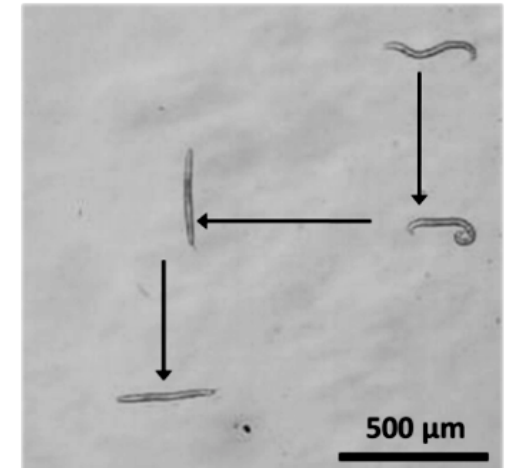
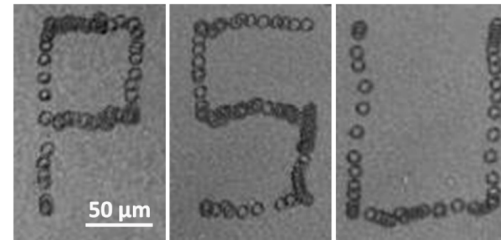
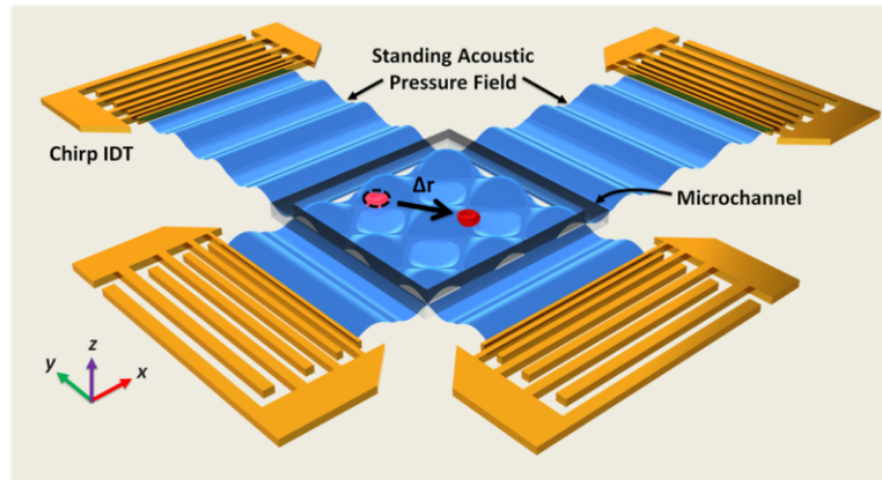


Manipulating Single Cells & Organisms with Acoustic Tweezers

Penn State MRSEC DMR-0820404: X. Ding, S.-C. S. Lin, B. Kiraly, H. Yue, S. Li, J. Shi, S. J. Benkovic, and T. J. Huang



The ability to non-invasively and dexterously manipulate cells and other microparticles is critical for a wide variety of applications in biology, chemistry and medicine. MRSEC researchers have developed a novel acoustic manipulation platform – acoustic tweezers – which can trap and manipulate single microparticles, cells and entire organisms along programmed routes in two dimensions within a microfluidic chip. “PSU” is spelled by moving a bovine red blood cell. The organism *C. elegans* can be manipulated and immobilized. With its non-invasiveness, miniaturization and versatility, these acoustic tweezers will become a powerful tool for many disciplines of science and engineering.