

Microfluidics for bioengineering and biomedicine

Micro/Nano-particle separation and focusing

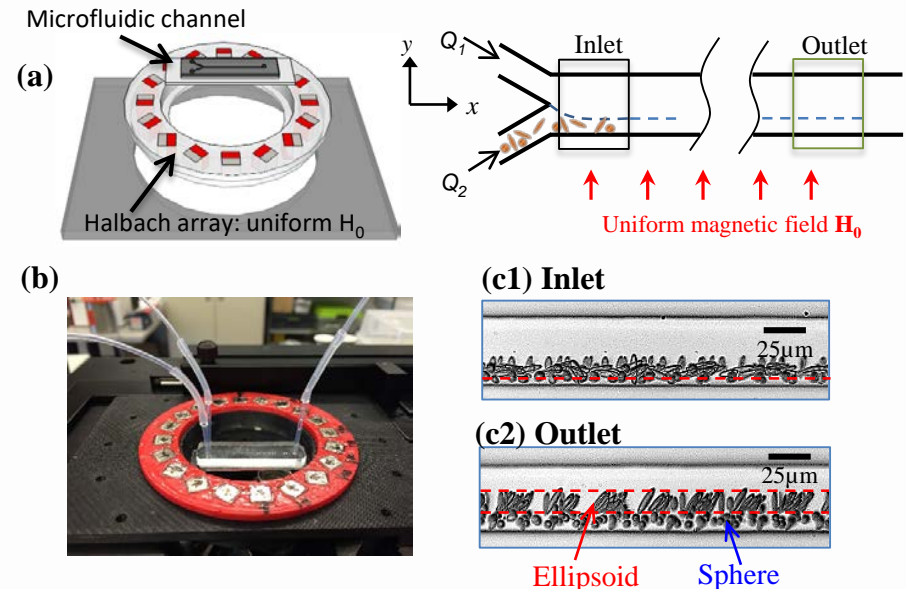
- Design, fabrication, and modelling of microfluidic magnetic separator devices
- Separation of micron/nano-sized particles and biological cells by shape using magnetic fields

Micro-droplet formation

- Experimental study of droplet formation in microfluidic devices
- Phase-field simulation of multiphase flows

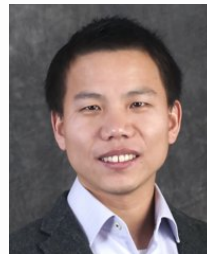
Acoustic microbubbles

- Frequency dependent bubble dynamics under acoustic driving
- Microbubble streaming flows in non-Newtonian fluids
- Separation of microparticles/cells with acoustic streaming flows



Separation of micro-particles/cells by shape and size with microfluidics and magnetic fields

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- University of Missouri Research Board
- Center of Biological Science and Engineering, Missouri S&T

Keywords

- Microfluidics, Micro-Nanoparticle, Cell separations

Recognitions

- Award of Small Matters Video Contest, Biomicrofluidics, American Institute of Physics, 2012
- Best Student Paper Award, The Second International Conference on Advances in Microfluidics and Nanofluidics, 2011

Potential Collaboration fields

- Biological cells; drug delivery; bio-fabrication;