

Inertial focusing and collecting of small particles

Students from NTU-RPI-DTU Innovation workshop

ABSTRACT

Water-borne viral diseases pose high risks for public health worldwide. Very low concentrations of dangerous viruses in the water can cause severe disease. For detection of this small amount of viruses in water, it is important to increase the concentration.

In this project, you will work on finding a method to up-concentrate and collect the smallest possible particles in aqueous solution. Inertial focusing is an up and coming technology and will be the desired technique utilized during this project. Inertial focusing allows for high throughput sorting of micro (and nano?) particles at high (1-100) Reynolds numbers. The project will include experimental testing, including fast prototyping of a polymer based microfluidic system and flow analysis with fluorescence microscopy.