Special Issue

Acoustical Tweezers: From Fundamental Research to Applications

Message from the Guest Editors

Acoustic tweezers are a versatile tool that has been developed and broadly applied in a variety of contexts from cell manipulations to genetic engineering during the past two decades. Based on acoustic waves with various frequencies from kHz to hundreds of MHz ranges, the sample can be manipulated with sizes ranging from millimeter scales (e.g., multicellular organisms), to micrometer scales (e.g., leukemia cells, droplets or clusters), to nanometer scales (e.g., extracellular vesicles). Acoustic tweezers can also control cell–cell interactions, measure intercellular force, explore cell mechanical properties, and separate cell types. Compared with optical tweezers, acoustic tweezers can provide larger forces in the nanonewton range with relative safety of the acoustic power, which are similar to that used in ultrasonic imaging for diagnostic applications. This Special Issue seeks to showcase research papers, short communications, and review articles that focus on acoustic tweezers in novel methodological developments and various applications in biology and medicine. We look forward to receiving your submissions!

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