Special Issue

Digital Microfluidics for Liquid Handling and Biochemical Analysis

Message from the Guest Editors

Digital microfluidics (DMF) is an emerging technology for the transportation of liquids at a small scale, especially discrete droplets, in a controllable manner. Compared to the closed channels of conventional microfluidics, DMF devices enable the precise manipulation of droplets containing target samples on a two-dimensional planar chip or even in a three-dimensional open environment. Due to its unique features, DMF presents a great potential for implementing droplet manipulation tasks with a higher efficiency and automation. The handling tasks include but not limited to dispersing, trapping, moving, mixing, and reacting, with all these tasks able to be completed through well-established controlling techniques such as electrowetting on dielectric (EWOD) and dielectrophoresis (DEP). Thus, DMF coupled with suitable analytical methods has versatile applications in chemical and biomedical fields and, as such, this Special Issue seeks to showcase research papers and review articles focusing on novel methodological developments and promising biochemical applications in droplet-based digital microfluidics. We look forward to receiving your submissions.

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