Special Issue

Microbes-on-a-Chip: Manipulation, Analysis, Detection and Growth of Pathogenic Microorganisms in Micro/Nanosystems

Message from the Guest Editors

Except the area of diagnostics, drug development, analytical methods, and chemical sensing, the use of micro-/nano-systems has also been extended to the study of microorganisms for point-of-care and lab-based diagnostics, as well as for preclinical drug research. Different microfluidic technologies have been proposed for microbe manipulation and analysis (separation, trapping, detection, biofilm formation, gradient generator for antimicrobial susceptibility testing etc.), owing to its highly precise control and lysis-free operation, portability, reduced sample/reagents, lower costs, ease of operation and automation. In addition, a variety of nanodevices and nanoparticles have been developed for the rapid capture and removal of pathogens (bacteria, viruses, etc.) from the contaminated source and biospecimen. This Special Issue seeks to showcase research papers, short communications, and review articles that focus on the use of micro-/nano-systems for the study and analysis of microbes, with particular interest in microfluidic platforms for the separation of microbes from water or blood, biofilm formation, and innovative microfabrication technologies.

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Editor-in-Chief

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