



## Microfluidic-Based Microbial Culture

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### Message from the Guest Editor

Dear colleagues,

The inability to replicate essential aspects of cell microenvironments using traditional culturing methods (e.g., culture flasks and agar plates) has resulted in the culturability of a limited number of microorganisms found in various ecosystems. This shortcoming has prodded the design of new microfluidic-based technologies to efficiently cultivate microbes in defined arenas, commonly made of oil or polymeric shells. Nanoliter-sized emulsions, droplet-based confinements, and microcapsules are now being generated to sequester and grow cells under new environmental conditions. Furthermore, these microbial systems enable the high-throughput detection and assessment of microbial dynamics and pathogenesis.

This special issue will highlight the nanoculture systems employed for the mechanistic understanding of microbial growth and community dynamics. It will discuss downstream applications of microfluidic-based techniques for identifying microorganisms.





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