Nanoparticles on Microfluidic Platforms

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Message from the Guest Editors

Dear Colleagues,

Nanoparticles start to be a key element in a wide range of applications, starting from bio-chemical sensing and gene therapy to photovoltaics or displays. Recent advances in microfluidics bring new methods for processing, characterization or manipulation of nanoparticles. In this direction, we wish to invite you to contribute to this Special Issue with research papers, short communications, and review articles that focus on the development of chemical synthesis, processing, characterization, or applications of nanoparticles using microfluidic methods. The scopes include all of the microfluidic-based strategies aimed at directing the self-assembly of the nanoparticles, microfluidics characterization methods (optical, magnetic, electrical, or chemical) involving nanoparticles, and methods for the on-chip purification of several populations of nanoparticles. Articles focusing on applications, such as biochemical sensing utilizing nanoparticles in microfluidic devices, microfluidic platforms that mimic in vivo conditions for preclinical screening of nanoparticle uses, or in vitro microfluidic diagnostic devices with nanoparticle–cell, nanoparticle–protein, and nanoparticle–chemical reactions/interactions are also welcome. Potential topics include, but are not limited to:

- Microfluidics-driven self-assembly of nanoparticles
- Handling of nanoparticles in microfluidic devices
- Microfluidic methods for characterization of nanoparticles
- Microfluidics for accelerating clinical translation of nanoparticles
- Microfluidics-based applications with nanoparticles