

Special Issue

Active Colloidal and Micro Systems for Propulsion and Manipulation

Message from the Guest Editors

Colloidal suspensions are heterogeneous fluids containing solid microscopic particles and include two major classes: equilibrium and active. Due to the remarkable properties of converting available energy sources into directed propulsion and the capability of dynamic self-assembly into complex functional geometry, active colloidal suspensions are fabricated for the application of tunable self-assembled micro-swimmers and micro-robots. To precisely control and manipulate these micro/nanoscale targets and objects, the microsystem, including microfluidic and nanofluidic platforms, provides a powerful and promising technique for their potential in the fields of chemical, biological, and environmental science. Accordingly, this Special Issue seeks to showcase research papers and review articles that focus on novel methodological developments for the generation, fabrication, and utilization of active colloidal suspensions in a variety of formats, with particular interest being paid to techniques for self-propulsion micro-swimmers and micro-robots as well as the manipulation, separation, characterization, and identification of micro/nanoscale particles and targets in microsystems.

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