

Track 9: Microfluidics

Sponsor: Fluids Engineering Division

Topic 9-1: Micro-Total-Analysis Systems (MicroTAS) and Lab-On-A-Chip Applications (MNFDTC)

Organizers:

Mehdi Salek: msalek@mit.edu

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Jalal Ahamed: m.ahamed@uwindsor.ca

Descriptions:

Micro-Total-Analysis Systems and Lab-on-a-Chip represent a cutting edge field of research focusing on the miniaturization and integration of laboratory functions onto microfluidic chips. Presenters are more than welcome to show off their remarkable applications of μ -TAS and Lab-on-a-Chip platforms.

Topic 9-2: Theory, Modelling and Simulation for Micro and Nano-Fluidic Systems (MNFDTC)

Organizers:

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Descriptions:

Transport phenomena in micro/nanofluidic systems are very complicated, and further developing those systems requires rigorous application of theory, modelling, and simulation. This topic focuses on practical applications of theory, modelling, and simulation for designing, developing, and characterizing micro/nanofluidic devices.

Topic 9-3: Droplet Microfluidics (MNFDTC)

Organizers:

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Descriptions:

Droplets and bubbles in microchannels offer unique applications of microfluidics. This topic focuses on the fundamental aspects and practical applications of droplets and bubbles in microfluidic systems.

Topic 9-4: Complex Fluids in Microfluidic Systems (MNFDTC)

Organizers:

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Descriptions:

Working fluids in microfluidic devices are not always Newtonian or single phase. What happens when we have complex fluids or emulsions in a microfluidic system? This topic focuses on the fundamental study and real-world applications of complex fluids in microfluidics.

Topic 9-5: Creative Applications of Microfluidics (MNFDTTC)

Organizers:

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Descriptions:

The potential of microfluidics is limitless. If you are using microfluidics for non-traditional applications, this topic is just right for you. Show your limitless creativity for microfluidics.

Topic 9-6: Commercialization of Micro and Nano-Fluidic Systems (MNFDTTC)

Organizers:

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Descriptions:

Commercialization is a very important step in the development of micro/nanofluidic systems. This topic covers various case studies on the commercialization of micro/nanofluidic systems and related industry.