

Session Program

May 18 - 23, 2026

Microfluidic Horizons 2026

Poster 21/05

Sat, May 23

12:00 PM

Poster 21/05

Session

12:00 - 12:20 PM

Pressure-Encoded Control in Fully 3D Printed Microfluidics: An FDM and FEA Approach

12:20 - 12:40 PM

Numerical Analysis of Compound Droplet Formation and Dynamics Using Complex Fluids in a Co-Flow Microchannel

12:40 - 1:00 PM

Predictive 3D Multiphysics Modeling and Experimental Validation of Particle Trajectories in SSAW Microfluidic Devices

1:00 - 1:20 PM

Automated Characterization of Jet Breakup Dynamics in Newtonian and Viscoelastic Fluids using Deep Learning and Computer Vision

1:20 - 1:40 PM

Microfluidic Synthesis of Cu Nitroprusside Nanoparticles for Cancer Therapy

1:40 - 2:00 PM

Opto-microfluidics as a promising solution for an effective and fast detection of solid contaminants in liquids

2:00 - 2:20 PM

Why Heat Gets Stuck at Graphene-Water Interfaces

2:20 - 2:40 PM

On-Chip and Off-Chip Ion Concentration Polarization Strategies for Enhanced Biosensing

2:40 - 3:00 PM

Exploring light-driven bacterial behavior in microfluidic chambers

3:00 - 3:20 PM

Role of cholesterol and microparticles on the structural and mechanical properties of lipid monolayers

3:20 - 3:40 PM

Diffusion-Driven Microfluidics for Bias-Free Measurements of Flagellar Motor Dynamics in Magnetotactic Bacteria

3:40 - 4:00 PM

Liposomes for Ophthalmic Administration of Nutlin-3a prepared by Microfluidic Approach

4:00 – 4:20 PM

Microfluidic investigation of cancer cell migration under confinement and interstitial flow**Speaker**

Ankur Deep Bordoloi

4:20 – 4:40 PM

Robust fabrication of ultra-soft PDMS microcapsules as a biomimetic model for red blood cells

4:40 – 5:00 PM

Microfluidic Fuses: Flow-Induced Choking in Channels

5:00 – 5:20 PM

The interaction between a microfluidic jet and a water-oil interface

5:20 – 5:40 PM

Optical Splitting of Droplets on Engineered Lithium Niobate Surfaces

5:40 – 6:00 PM

Simulation of water transport in porous media with variable wettability, such as the catalytic layer of a hydrogen fuel cell

6:00 – 6:20 PM

Stability Analysis of a Capillary Rise Model with the Slip Boundary Condition

6:20 – 6:40 PM

Magnetically Driven Ferrofluid Transport for Pump-less Cooling in 3D-Printed Channels

6:40 – 7:00 PM

Integrated microfluidic platforms with low process volumes for the efficient formulation of lipid nanoparticles and scalable production

7:00 – 7:20 PM

A CMOS-Integrated Lab-on-a-Chip System for Continuous Cellular Imaging and Thermal Control

7:20 – 7:40 PM

A Microfluidic Platform for Biofilm Cultivation with Integrated Electrochemical Sensing

7:40 – 8:00 PM

Low-Cost Paper-Based Lab-on-Chip: Creating Hydrophobic Barriers using Common Materials for Microfluidic uses**Speaker**

Ms Mansi Chandra

8:00 – 8:20 PM

Capillary Transport with Rough Walls and Imposed Flux: A Microfluidic Model of Plant Xylem Flow**Speaker**

Riddhika Mahalanabis

8:20 – 8:40 PM

Kinetic barriers in oil de-wetting from thin-shell double emulsions towards biomimetic synthetic cells

8:40 – 9:00 PM

Dynamics of 2D microfluidics crystals in patterned Hele-Shaw cells**Speaker**

Kaigang Yang

9:00 – 9:20 PM

Hydrodynamic dispersion in flowing networks induces bacterial (mis)communication**Speaker**

Ms Despoina Anastasopoulou

9:20 – 9:40 PM

Soft objects in textured microchannels: a friction-based sorting mechanism

9:40 – 10:00 PM

Study of the hydrodynamics of micrometric particles within droplets confined in microchannels for biochemical applications

10:00 – 10:08 PM

When Shape Matters: Surface Chemistry and Anisotropic Particle Retention in Depth Filtration

10:08 – 10:28 PM

AC-enhanced chiral drift of helical microswimmers in viscous pipe flow

10:28 – 10:48 PM

Evaluation of Additive Manufacturing techniques' impacts on generation of microfluidics utilized in bio-applications

10:48 – 11:08 PM

Axial patterning control in neural organoids via microfluidic platforms through morphogen gradients and ECM modulation

11:08 – 11:28 PM

Microfluidics devices for precise patterning of organ-on-chips

11:28 – 11:48 PM

Pulmonary surfactant propagation in biomimetic airways : Relevance for adult acute respiratory distress syndrome (ARDS).

11:59 PM