International

Acoustofluidics Forum and Olympics

(3rd SIG Meeting of The Acoustofluidics in Fluidic Network)

26th April 2018: Sandyford Building, (4th Floor, Hedley Suite) Northumbria University, Newcastle Upon Tyne, UK

All experiments were performed and judged during the meeting. Note these do not represent Acoustofluidic world records made in ideal conditions.

Judging panel: Michael Baudoin (Lille, France), Leslie Yeo (RMIT, Australia), Amanda Franklin (Bristol, UK), Luke Hawkes (Heriot-Watt, UK)

	15:40-18:00	**Acoustofluidics Olympia and Poster Presentations**		
Name	Institute	System	Quantity measured	Result
Peter Glynne Jones	University of Southampton, UK	An air based acoustic levitator	Not measuresd	
Asier Marzo	University of Bristol, UK	Acoustic Levitation	Number of nodes	14
Luke Cox + Asier Marzo	University of Bristol, UK	Huge Levitation	Weight lifted	0.3 g
Stefan Radel	Vienna University of Technology, Austria	Sonicatch		Lost in transit
Christian Witte/Elijah Nazarzadeh	University of Glasgow, UK	High speed drop race	Drop velocity	1 cm s^{-1}, (2 cm in 2 s)
Xi King/Elijah	University of Glasgow, UK	Misting for drug delivery to the lungs	Rate of converting water to mist with 5 µm diameter droplets	100 µl min^{-1}
Julien Reboud/Rab Wilson	University of Glasgow, UK	Acoustic heating	Temperature difference between water and detergent drops. Heated by molecular relaxation (acoustic absorption).	10 ^{o}C
Julien Reboud/Rab Wilson	University of Glasgow, UK	Jetting : most directional / highest jet !		
Ran Tao	Northumbria University, UK	Flexible SAW microfludic devices.	Minimum radius of flexible droplet racetrack.	5 mm
Hamdi Torun	Northumbria University, UK	Listening with electromagnetic ears	Not measured	
Prashant Agrawal	Northumbria University, UK	Lendenfrost effects	Time for drop to complete 1 circuit of grooved hot plate.	4 s
Qiang Wu	Northumbria University, UK	Optical fibre for acoustic microphone	Not measured	
Jeremy Hawkes, UK		A filter for biological cells based on enhancing sedimentation with ultrasound	Filtration efficiency	Technical fault
Jeremy Hawkes, UK		Combining acoustofluidics and dielectrophoresis to select uniform droplets "an experiment you can try at home"	Largest droplet diameter produced by a vibrating stream. Time to collect 4 ml of droplets.	1.7 mm (12.8 s at 130 drops s^{-1})
Raimund Brünig	Belektronig, Germany	SAW-chip to stir small liquids	Time to displace 2 mm bead 2 cm through water	< 1 s