International

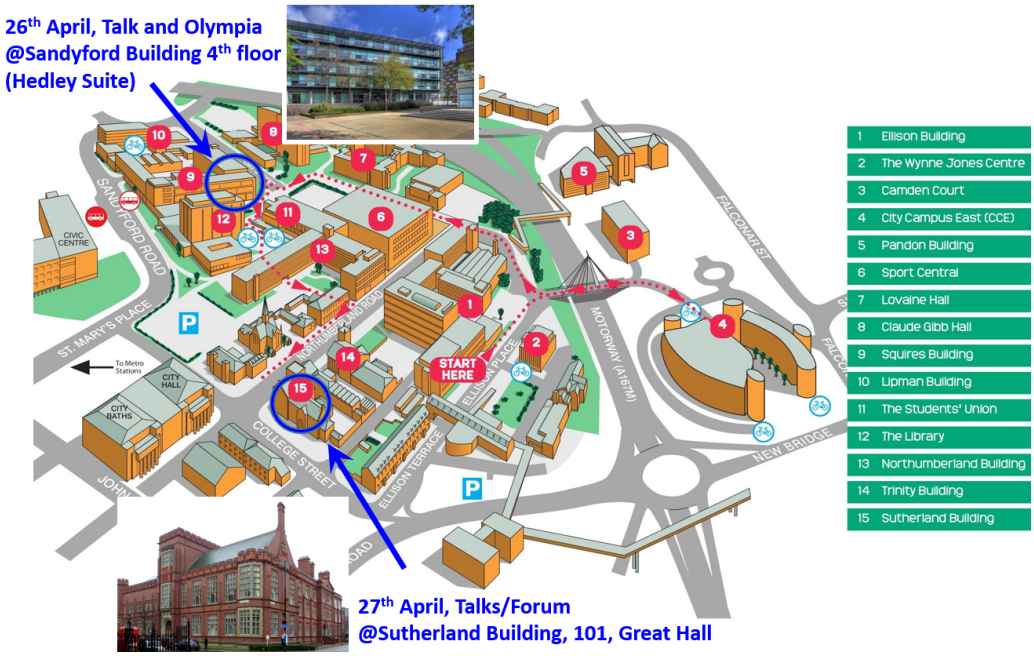
Acoustofluidics Forum and Olympics

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

This international Acoustofluidics Forum and Olympics is a showcase for acoustic waves interacting with liquid, covering fundamental understanding of the phenomena, and its applications. It will include topics of microfluidics induced by ultrasonic, surface acoustic waves, bulk acoustic waves and flexural waves, and use of these for bio-sampling, microanalysis, and microfluidic diagnosis.

Date: 26th and 27th April 2018
Northumbria University, Newcastle Upon Tyne, UK

Meeting Place: 26th April 2018: Sandyford Building, (4th Floor, Hedley Suite)
https://goo.gl/maps/GgUGq6Bezp22
27th April, Great Hall at Sutherland Building (101) https://goo.gl/maps/ZM24na51CyT2
(Click here for **City Campus map**)



Agenda for School groups and individual students

	Time	Speaker	Institute	Title
Sandyford Building, Hedley Suite				
Day 1: 26th				
	15:20-17:30	**Acoustofluidics Olympia and Poster Presentations (Tea and Coffee)**		
		Dr. Peter Glynne Jones	University of Southampton	An air based acoustic levitator
		Asier Marzo	University of Bristol	Acoustic Levitation
		Luke Cox + Asier Marzo	University of Bristol	Huge Levitation
		Dr. Stefan Radel	Vienna University of Technology, Austria	Sonicatch
		Christian Witte/Elijah Nazarzadeh	University of Glasgow	High speed drop race
		Xi King/Elijah	University of Glasgow	Misting for drug delivery to the lungs
		Dr. Julien Reboud/Rab Wilson	University of Glasgow	Acoustic heating
		Dr. Julien Reboud/Rab Wilson	University of Glasgow	Jetting : most directional / highest jet !
		Dr. Ran Tao	Northumbria University	Flexible SAW microfludic devices.
		Dr. Hamdi Torun	Northumbria University	Listening with electromagnetic ears
		Dr. Prashant Agrawal	Northumbria University	Lendenfrost effects
		Dr. Qiang Wu	Northumbria University	Optical fibre for acoustic microphone
		Dr. Jeremy Hawkes		A Filter for Biological Cells Based on Enhancing Sedimentation with Ultrasound
		Dr. Jeremy Hawkes		Combining Acoustofluidics and Dielectrophoresis to Select Uniform Droplets "an experiment you can try at home"
		Dr. Raimund Brünig	Belektronig, Germany	SAW-chip to stir small liquids
	End of the day			

Travel Information

Northumbria City Campus is in the heart of Newcastle about a 15-20 minutes' walk from the mainline railway station or can be accessed by taking the metro to Haymarket Station and then walking down Northumberland Road. The University's standard travel instructions are here and a Campus map is here.

Main subjects and topics associated with this Froum:

- Digital acoustofluidics and microchannel based acoustofluidics
- Acoustic-induced streaming and simulation
- Ultrasonic-induced streaming and agitation, mixing, cell/particle separation, cell lysis, heating.
- Micromixing and pumping in microdroplet and microchannel
- Acoustic wave jetting and nebulisation
- Acoustic tweezer and particle/cell sorter
- Acoustic wave induced heating and polymerise chain reaction
- Liquid droplet generation in digital microfluidics and microchannel by ultrasonic or acoustic waves.
- Two phase or multiphase flow in channel induced by acoustic wave;
- Micro bubble generation and interaction with liquid due to acoustic waves
- Cell and bacteria interacting with acoustic waves.
- Microfluidics actuated by different wave modes (Lamb Wave, Rayleigh waves, shear waves, Love waves, bulk acoustic waves)
- Acoustic wave nebulisation, nanoparticle formation and drug/chemical analysis
- Acoustic wave induced printing and patterning.
- Standing wave based microfluidics and traveling wave based microfluidics.
- Integration of acoustofluidics with sensing and other microfluidic technology, such as phononics, electrowetting, dielectrophoresis, surface enhanced Raman spectroscopy (SERS), surface plasma resonance (SPR).
- Acoustic wave based microfluidic biosensing/detection, lab-on-chip based diagnosis system.

Organisation team:

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