

Title of presentation

“Surface Acoustic Wave based Lab-on-a-chip”

Abstract: microfluidic systems are emerging technology which deals with minute amount of liquids (biological samples and reagents) on a small scale. They are fast, compact and can be made into a highly-integrated system to deliver sample purification, reaction, labelling, and detection etc, thus they are very promising for applications, such as lab-on-a-chip and handheld healthcare devices. Miniaturized micropumps typically consist of a membrane structure to deliver liquids, unreliable, complicated in structure and difficult to make. The trend of new generation micropumps is moving part-free micropumps operated by electrokinetic force and surface tension. This paper reviews the relevant technologies, and introduces the acoustic wave based microfluidics which can be used not only for pumping, mixing, droplet generation, but also for biosensor, suitable for single-mechanism based lab-on-chips application.