



ΕΘΝΙΚΟ ΜΕΤΣΟΒΙΟ ΠΟΛΥΤΕΧΝΕΙΟ ΣΧΟΛΗ ΧΗΜΙΚΩΝ ΜΗΧΑΝΙΚΩΝ

ΕΠΙΤΡΟΠΗ ΣΕΜΙΝΑΡΙΩΝ

Ηρώων Πολυτεχνείου 9, Πολυτεχνειούπολη Ζωγράφου, Αθήνα 15780

ΣΕΜΙΝΑΡΙΟ ΧΗΜΙΚΗΣ ΜΗΧΑΝΙΚΗΣ

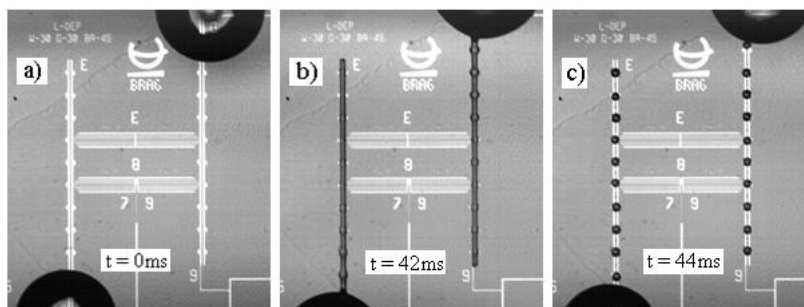
Πέμπτη 17 Ιουνίου, **13:30**

Αίθουσα “Ν. Κουμούτσου”

Prof. **Karan V.I.S. Kaler**
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DEP based Miniaturized Surface Microfluidic Devices

The phenomena of Dielectrophoresis (DEP) can be leveraged not only to study and manipulate polarisable particles, but at sufficiently high electric fields can be usefully applied to the micro-actuations of polarisable liquids and pico-liter volume liquid droplets. This ability to micro-manipulate, dispense and transport aqueous samples on tops of surfaces without the aids of pumps and valves, as required in conventional microfluidics, makes such surface microfluidic devices particularly attractive for lab-on-a-chip (LOC) applications. In my presentation I will illustrate the practical implementation of this DEP surface microfluidic device technology and furthermore demonstrate the utility of such devices in the analysis of biological samples using model biological assays.



Example actuation of liquids by DEP

Integrated DEP sample manipulation

